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DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1919, No. 44

MODERN EDUCATION IN CHINA

By

CHARLES K. EDMUNDS
PRESIDENT OF CANTON CHRISTIAN COLLEGE
CANTON, CHINA

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MODERN EDUCATION IN CHINA.

INTRODUCTION.

Americans often ask: "How do you find the Chinese students? How do they compare with American students?" My answer, after 15 years in China, is that the distinction between the oriental and the occidental lies in technique and in knowledge, not in intellectual caliber. While there are differences in point of view and in method of approach, there is no fundamental difference in intellectual character. The Chinese conception of life's values is so different from that of western peoples that they have failed to develop modern technique and scientific knowledge. Now that they have come to see the value of these, rapid and fundamental changes are taking place. When modern scientific knowledge is added to the skill which the Chinese already have in agriculture, commerce, industry, government, and military affairs, results will be achieved which will astonish the western world.

Religion, government, and reverence for antiquity have been the dominant influences in shaping the course of Chinese education. Confucianism, Buddhism, Taoism, and for the last century Christianity have directly and considerably influenced the development of the educational system. Unfamiliarity with the law of progress has led to undue respect for the ancient sages and has prevented radical reforms until they were imposed by the necessities of modern intercourse with the rest of the world. While the Chinese have been highly conservative, and their educational system has reflected this, their conservatism has its limits. Slow in making a departure, once the truth strikes home and its practicability is demonstrated, they do not hesitate at radical changes, nor are they discouraged by difficulties and obstructions.

The policy of providing modern education upon a national basis was adopted only a few years ago. When due allowance is made for this fact, China compares favorably in its educational history with the western world.

Though late in introducing reforms, China has always regarded education as of supreme importance. The change is not in the spirit, but in the character of the learning which that spirit admires.

Formerly cherishing solely the literary and ethical excellencies of ancient Chinese classics, she now extends her admiration to the practical realities and usefulness of western science, because in them she recognizes the instruments for the realization of new national and economic ideals.

Fortunately the people of China have long been democratic in spirit and so has been their educational system. To develop the individual into a man of virtue and culture and to secure social control through raising up leaders with ability and character to influence the lives of others have been the main motives of Chinese education throughout many centuries, and may well continue even with altered content of the curricula. For China today is more in need of true men than she is of merely modern methods.

I. THE CHANGE FROM THE OLD TO THE NEW.

The ancient system of education and its content have often been fully described. The gradual decadence of the schools themselves and the growth of the system of literary examinations as the means of providing candidates for government positions, followed in more recent times by modifications in the subject matter of the examinations and finally by the abolition of the examination system in toto—these fill the period from the really old to the really new education in China.

The last stages of this long period have been three, the changes becoming more and more rapid as we approach the present, the changes in education being concurrent with fundamental alterations in the political life of the nation. The transition from traditional to modern education began with the forced opening of the first five ports to foreign trade in 1842 and ended with the abolition of the ancient system of literary examinations in 1905. From 1905 to 1911 marks the construction period in which a modern educational system was actually applied with more or less success and frequent alteration. The year 1911 marks the end of the Manchu Dynasty and the beginning of the attempt to establish a republican form of government, involving necessarily also a reorganization of education so far as government auspices are concerned.

THE SIMULTANEOUS DEVELOPMENT OF REPRESENTATIVE GOVERNMENT AND GENERAL EDUCATION.

Either of these tasks taken separately would constitute a gigantic problem, whereas the fact is that they are so closely related and one so dependent on the other that the attempt to establish a democracy before adequate public education is had, or the attempt to establish an adequate system of schools before the Government is itself sufficiently stable to handle the financial burden thus involved, may well be regarded, especially when the size of China and her peculiar history are noted, as the greatest educational problem of all time, and one which will necessarily require several decades for its solution.

The time limits of the three periods just described apply to mission schools and colleges as well as to Government institutions, but with different characteristics. Missionaries were the pioneers of the first

period, and their schools were practically unmatched by Government effort. Their work, however, did not have the scope and character which it assumed during the second period. There was no well-established educational policy; schools were opened as necessity arose and funds permitted and many were "called" to educational work who would have "chosen" some other form of missionary effort with better adjustment and greater efficiency had the demand not been so imperative. Only toward the end of the first period did the mission boards realize the tremendous importance of offering sound education under Christian auspices to the youth of awakening China. In the second period several fairly strong mission colleges and numerous high and lower schools were developed. These have not only served as models and stimulators of Government effort but have provided some of the large number of teachers demanded for the Government's own program. The third period has been one of coordination and affiliation between mission institutions, both locally and in large associations, while their opportunity for service is even greater to-day than it was in 1911 because the political uncertainty which has prevailed since then to date has with but few exceptions greatly handicapped Government institutions, chiefly through reduced revenue.

THE GOVERNMENT'S FIRST STEPS, 1862–1897.

Let us note briefly the main points of progress during these three stages of transition, construction, and reorganization. Naturally the first step of the Government after the opening of the treaty ports was to inaugurate schools for the training of the interpreters which this sudden increase in foreign intercourse demanded. Naturally also the first of these was established in the national capital in 1862, which in 1866 was raised to a so-called college grade by the addition of a scientific department. In 1868 Dr. W. A. P. Martin, an American missionary who had specialized in international law, was appointed to the staff and in 1869 became the first president of what is now known as the Government University of Peking (the American Methodist Mission having already taken for its school the name of "Peking University"). Reorganized in 1898, this institution in 1917 included, besides a preparatory department of some 600 boarding students with a teaching and administrative staff of 6 foreigners and 47 Chinese, a normal school, and four collegiate departments (letters, law, science, and engineering), with a total staff of 56 Chinese and 11 foreigners, and some 1,100 students. The preparatory school has just been abolished and a two-years' preparatory course incorporated in each of the collegiate departments. Most of the Chinese instructors in the collegiate departments

have been trained abroad, many of them having previously studied in mission schools.

Language schools were started also in Shanghai and Canton immediately after this Peking school. The Government next inaugurated technical and professional schools of various sorts and of varying excellence and fortune, as follows: 1869, Mechanical School, Shanghai; 1869, naval schools, Foochow; 1879, Telegraph College, Tientsin; 1887, Peiyang University, Tientsin; 1890, Naval College, Nanking; 1890, Mining and Engineering College, Wuchang; 1893, Army Medical College, Tientsin; 1897, Nanyan College, Shanghai.

Of these the two survivors worthy of more detailed notice are Peiyang University and Nanyang College, now called the Government Institute of Technology. Both of these are national schools and are supported in part with funds from the Telegraph Administration, the China Merchants' Steamship Navigation Co., and the superintendent of customs.

Although Peiyang University was inaugurated in 1887 when Dr. Charles D. Tenney was made president, organization was not effected until after the war with Japan (1894–95). Located in a suburb of Tientsin, this is now the best established Government school in China, comprising departments of general arts and sciences, law, and engineering, with about 300 boarding students and a staff of some 16 Chinese and 13 Europeans under the presidency of T. L. Chao.

The Government Institute of Technology, located in a suburb of Shanghai (the New York of China), was reorganized in 1897 by Dr. John C. Ferguson. It now has 600 students and a faculty of 14 Chinese and 6 Europeans.

It is interesting to note that all three of these Government institutions of first rank were inaugurated under American presidents who had previously been Christian missionaries, while to-day the president of each is a Chinese.

Concomitant with the development of these schools attempts were made to introduce reforms in the time-honored examination system itself. In 1869 mathematics was introduced; in 1875 the Viceroy Li Hung Chang advocated the physical sciences but failed to receive royal sanction. War with France in 1887 aroused the Government somewhat and natural sciences were introduced in the examination system to a limited extent, while mathematics received increased attention. The literary chancellors themselves were, of course, unfamiliar with the new subjects and very little was actually accomplished. Again the shock of a foreign conflict (Sino-Japanese War 1894–95) aroused not only the scholars of the realm but the Manchu

Emperor himself, who forthwith became an ardent student of western arts and sciences. The demand for the new learning became so great that within 18 months of the close of the war with Japan all modern schools throughout the land, whether under Government or mission auspices or private control, were overcrowded, and such, in fact, has been the condition ever since. The eagerness of the Chinese for modern education can not be overstated.

The greatest advocate and active promoter of these educational reforms was the illustrious Viceroy Chang Chih Tung, who not only inaugurated an ambitious university scheme at Wuchang, engaging many experts from America and several European countries,[1] but by his remarkable book, "Learn,"[2] of which millions of copies were distributed, prepared the minds of the people throughout the land for the sweeping reforms that were so soon to be launched. He outlined a complete system of schools and indicated the curricula from primary grades to university courses, embracing a mixture of Chinese classics and the modern learning of the West. He courageously advocated the abolishing of the "eight-legged essay" and its accompaniments, and suggested that Buddhist and Taoist temples be converted into schools and the temple lands and incomes used for educational purposes; which has been very largely done, though not until the unfortunate reactionary movement had culminated in the Boxer outbreak of 1900.

EDUCATIONAL HISTORY AND FOREIGN CONFLICTS.

The decade 1895 to 1905 was crowded with rapid developments and reactions. It is indeed curious that the educational history of so peace-loving a people as the Chinese should be definitely articulated with foreign conflicts. That decade is of intense interest alike to the student of China's educational development and of her international relations.

Ushered in by her war with Japan, it closed with the Russo-Japanese War, which involved the territory of her chief dependency and affected tremendously her whole future as a nation.

Aroused by the first of these conflicts the Emperor rapidly passed from a student to an ardent advocate of modern education, and issued in 1898 a series of most remarkable decrees, calling for the immediate inauguration of all the reforms suggested by Chang Chih Tung and even others. This literally shook the empire, and would doubtless have been successful but for the action of Yuan Shih Kai,

[1] These initial efforts were, however, not properly followed up and to-day yield only a memory.

[2] The precise Chinese title is Ch'uan Hsüeh P'ien or "An Exhortation to Learning;" the English translation is known as "China's Only Hope."

then Viceroy of Chihli, and the most powerful military leader of the day. Warned by Yuan the Empress Dowager imprisoned the Emperor, and decapitated most of his progressive advisers. His edicts were annulled, newspapers were suppressed, the proposed schools were held in abeyance, the right to use temples was revoked, the eight-legged essay and the old order of examinations were restored.

This policy continued until 1900, when the Boxer outbreak caused the temporary abandonment of all modern schools and colleges in northern China. Some of them, including the Peiyang University, were even completely destroyed. The ultimate result was helpful; for after China had been humbled, the program of educational reform was again adopted, and the Empress Dowager herself advocated the very measures she had so vigorously resisted only a short time before. Her decrees were even more far-reaching than those of 1898. Modern education progressed by leaps and bounds; and in the midst of reform came the Russo-Japanese War, which induced even greater efforts. The cry of the time was: What Japan has done, China can and will do. Students poured into the island empire, as many as 15,000. Returning from Japan, these became active in the cause of progress and reform, editing magazines and translating books, until a veritable flood of literature, much of it immature and violent, swept the reading public out of their lethargy.

PHASES OF THE CONSTRUCTIVE PERIOD.

While the earlier decrees provided for the official recognition of the graduates of modern schools, and for the modernization of the traditional schools, those of 1905 abolished the old system of examinations and the old style school as well, and provided that larger numbers of students be sent to Europe and America.

In 1903 a commission was appointed to devise a detailed plan for a national school system, and from 1905 to the end of the Manchu dynasty in 1911 there was an abundant issue of memorials, edicts, regulations, etc.,—enough to fill 12 volumes. While many of these became immediately and truly effective, many others were never fully realized, and one must read reports based on these documents with a questioning spirit, in view of the contrast between proposal and accomplishment. Even so the actual results appear truly remarkable considering the difficulties and the size of the problem.

These regulations and plans have undergone such frequent and even radical changes that it suffices for present purposes to indicate only the main features that have survived, and later to present in more detail the educational system now in force.

A ministry of education was created as one of the 11 great executive departments of the State. This assumed the educational functions previously assigned to the ministry of rites. It organized divisions to deal with general supervision, technical or special education, publication, industrial education, and finance. The present minister of education, Fu Tseng-hsiang, was appointed in December, 1917, to succeed Fan Yuan-lien, who has since been studying educational conditions in the United States and has only recently returned to China, but without official appointment.

Certain subsidiary central authorities are to be noted: A metropolitan board of education handles education in the national capital; the ministry of foreign affairs is in partial control of Tsing Hua College; the ministry of war of military schools throughout the country, and naval academies at Foochow, Tientsin, Chefoo, and Nanking; the ministry of communications of schools of telegraphy; the ministry of agriculture of special and agricultural schools; the ministry of finance of a school of finance in Peking; and the Controller of Customs of a special customs college in Peking.

The ministry of education, in 1906, defined the aim of the national educational system to be the inculcation of loyalty to the Emperor, reverence for Confucius, devotion to public welfare, admiration of the martial spirit and respect for industrial pursuits; of patriotism, morality, and the cooperative spirit as fundamental to a strong nation and the full realization of China's natural resources. Certainly a comprehensive and adequate aim. In 1906 also the unification and regulation of the numerous educational associations that had suddenly developed throughout the country was begun. Educational administration in the Provinces and in smaller local areas was outlined in great theoretical completeness but has fallen short in practice.

In connection with the old examination system an elaborate scheme of inspection and control had been established and naturally this same element has received considerable attention in all the new proposals.

The system prior to 1906 provided for a literary chancellor in each Province. This office, which originated about 1730 A. D., was an adaptation of that of superintendent of learning created at the beginning of the Manchu dynasty. The Literary Chancellor, acting for the Ministry of Rites, controlled the literary competitive examinations in his Province. He was assisted by a director of studies in each prefecture and a supervisor in each district.

According to the scheme of 1906, each Province was to have a commissioner of education appointed by the Throne on the recommendation of the ministry of education, coordinate in rank with the

provincial treasurer and the provincial judge, and like them under the control of the viceroy or governor, who in turn was under the control of the ministry of education in all educational matters. Ordinarily, however, the commissioner of education was really the chief. Besides a local board of education appointed by the commissioner, each Province was provided with six inspectors, appointed by the governor on the nomination of the commissioner. In smaller territorial divisions, such as prefectures, subprefectures, departments, districts, and villages, the local civil authorities were responsible for carrying out the educational policy of the Province. Local "educational exhorting bureaus" were established with a district inspector appointed by the commissioner of education, as executive officer, who in turn selected an "educational promoter" for each school district. Finally there were school trustees elected by the people to look after the interests of the school in the village or district, and to see that funds were provided.

This plan of administration was altered in 1909 and again in 1912 and in 1913, when the scheme now in force was inaugurated as described in the next section.

In the summer of 1911 over 100 delegates from the Provinces attended in Peking the first conference of the Central Educational Council which had been created as an advisory body. Recommendations were adopted, but the revolution prevented their immediate application.

Along with the development of modern education there was a movement toward the adoption of a representative government which an imperial decree of 1908 had promised. The ministry of education prepared a special educational program hastening the development of popular education as the foundation for such a form of government. The year 1916 was the time appointed for its establishment. But the imposing program was never realized, for, first, the throne advanced the date of adopting the constitutional government from 1917 to 1913, and at the beginning of 1911 another program for the following two years was submitted and sanctioned only in turn to be cast aside in the political upheaval which resulted in the downfall of the Manchu dynasty at the end of that very year.

The schools and colleges of China contributed a great share to the revolutionary movement.

Beginning with October 10, 1911, attention became focused on the struggle for liberty and the progress of modern education under Government auspices throughout the country was temporarily checked, though mission schools were relatively little affected. Funds intended for educational institutions were used for armies. School buildings became soldiers' quarters; in some cases the entire school

plant was destroyed by mobs. Students volunteered for service in the field, and large numbers of students organized for securing war funds. The students of Canton Christian College raised $55,000 Chinese currency. The disorganization incident to this revolution gave the cause of national education a setback from which it has not yet fully recovered.

PHASES OF THE REORGANIZATION.

The ministry of education of the Provisional Government, organized in Nanking, on January 9, 1912, issued a policy and curriculum for temporary guidance. The most important and significant measures urged were, first, to permit boys and girls to attend the same lower primary school; and, second, to eliminate the classics entirely from the curriculum of primary schools. The rapid and general diffusion of knowledge through public lectures, newspapers, libraries, and motion pictures was strongly urged, with a very fair measure of success.

When Yuan Shih Kai was elected President of China, April 1, 1912, a new ministry of education was organized. It ordered an investigation of educational changes since the outbreak of the revolution and endeavored to secure the return of all properties temporarily loaned to the military. It decreed that all textbooks should be submitted to the ministry for judgment as to their suitability, and it called an emergency central educational conference which met in Peking, July 10 to August 10, 1912.

The first minister of education under the Republic, Tsai Yüan Pei, conceived the aim of education to be the cultivation of virtuous or moral character in the young, supplemented by an industrial and military training and rounded out by an aesthetic education. He defined proper ethical education as that which instills a right knowledge of liberty, equality, and fraternity.

Besides the minister of education and the usual assistants in any ministry, the plan of reorganization passed by the National Assembly and promulgated by President Yuan Shih Kai called for 16 national inspectors appointed by the President on nomination of the minister, and 10 experts in art and science appointed by the latter, for one general council and three bureaus. The general council was to have charge of matters relating to schools under direct control of the ministry, teachers in public schools, educational associations, investigations, and compilations, school hygiene, organization and maintenance of school libraries, school museums and educational exhibits; the three bureaus were to have oversight, respectively, of general education, technical or professional education, and social education.

II. THE PRESENT STATUS OF GOVERNMENT EDUCATION.

In 1913 a new scheme of national inspection divided the country into eight inspectorial divisions: (1) Chihli, Fengtien, Kirin, Heilungkiang; (2) Shantung, Shansi, Honan; (3) Kiangsu, Anhui, Chekiang; (4) Hupeh, Hunan, Kiangsi; (5) Shensi, Szechwan; (6) Kansu, Sinkiang; (7) Fukien, Kwangtung, Kwangsi; (8) Yunnan, Kweichow; each territorial division to have two inspectors. Mongolia and Tibet were temporarily subject to special regulations.

The office of inspector was made merely advisory in character in recognition of the fact that under the new Government central authority had become less arbitrary, while local authorities had assumed more power of self-government. This system of provincial and local administration of education was meant to be provisional in character, and the practice in the various provinces has been far from uniform. In most of the provinces a department of education is an integral part of the provincial administration; the chief of the department being appointed by the President of the Republic, while there are also provincial inspectors appointed by the governor of the province.

The school system established on the inauguration of the Republic is indicated by the following outline:

Ages.	Schools.	Length of course.
7–10	Lower primary	4 years, meant to be compulsory.
11–13	Higher primary	3 years.
	or	
	Industrial of Class B	Do.
14–17	Middle	4 years.
	or	
	Normal	4 years (1 year preparatory).
	or	
	Industrial of Class A	3 years.
18–24	University	3 years preparatory plus 3 or four years collegiate.
	Higher Normal	1 year preparatory plus 3 or 4 years collegiate.
	Professional school	Do.

Supplementary courses offering continuation of work for two years are provided for those graduates of both the lower and the higher primary schools who can not attend the school of higher grade.

Industrial schools of class A offer general industrial education while those of class B provide elementary industrial education or training in special trades.

Whereas before the revolution the responsibility of establishing primary schools was not placed upon any specific authority, the new administration definitely assigns this duty to cities, towns, and villages. The establishment of middle schools is left to the provincial authorities; and, for the first time in Chinese history, middle schools for girls are specifically provided for on the same basis as those for the boys.

Higher primary schools may be established only after a sufficient number of lower primary schools have been provided; and the establishment or abolition of any primary school, under either public or private auspices, must receive the sanction of the chief district administrative official, who also supervises all educational affairs entrusted to the heads and teachers of both grades of primary schools.

The minister of education may order the various Provinces to increase the number of middle schools. Districts possessing financial strength may establish district middle schools and individuals or corporations may establish private middle schools; but in every case the sanction of the minister of education must first be secured.

Schools to train for a special profession or vocation may be established by the Central Government, by provincial authorities, or by private enterprise. A middle school course or the equivalent is to be required for entrance.

The normal schools aim to train elementary school teachers; the higher normal schools, teachers for middle and normal schools. Normal schools are established by the Provinces; while provincial higher normal schools are supported from the national treasury. An elementary school is attached to each normal school, and each higher normal school has one elementary school and one middle school attached to it. Normal schools for girls have kindergartens attached.

CURRICULA.

Curricula changes have included the elimination of Chinese classics as a subject in itself and the introduction of new subjects of study having a social and industrial significance. The scheme in force is as follows:

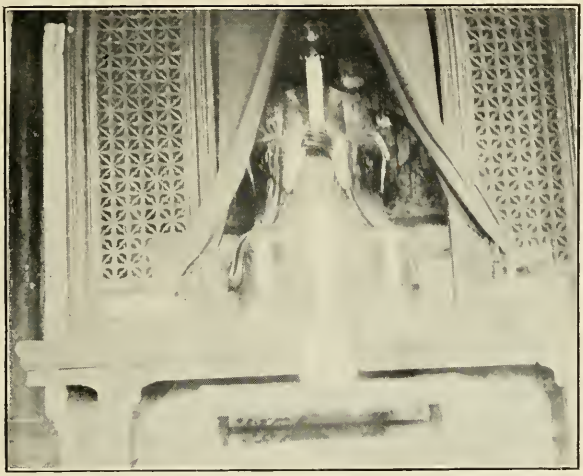
Lower primary school (four years).—Morals, mother tongue, mathematics, handwork, drawing, singing, and physical culture. Sewing for girls. Handwork is made compulsory. Hours per week: First year, 22; second year, 26; third and fourth years, 28 for boys and 29 for girls.

Higher primary school (three years).—Morals, mother tongue, mathematics, Chinese history, geography, physical science, handwork, drawing, singing, and physical culture, with agriculture for boys and sewing for girls. English or another foreign language may

GENERAL VIEW OF BUILDINGS OF THE COLLEGE OF THE WHITE DEER GROTTO.

A. LOOKOUT TOWER IN THE MIDST OF THE EXAMINATION HALLS AT NANKING.

B. MAIN CORRIDOR OF THE EXAMINATION HALLS, CANTON.



A. IMAGE OF CONFUCIUS IN THE COLLEGE OF THE WHITE DEER GROTTO.

B. EXAMINATION STALLS AT NANKING.

COURT OF THE CONFUCIAN HALL OF CLASSICS, PEKING.

be added. First year, 30 hours per week; second and third years, 30 for boys and 32 for girls.

Middle school (four years; only one course).—Morals, Chinese language, foreign language, history, geography, mathematics, nature study, physics, chemistry, government, economics, drawing, handwork, music, physical culture. First year, 33 recitations; second, 34; third and fourth years, 35.

Girls' middle schools.—Household arts, gardening and sewing are required; one hour less per week in each year being required than in the case of boys' middle school.

Although in 1909 two parallel courses of study were outlined for middle schools, the one industrial and emphasizing science, the other literary, emphasizing the classics, in 1911 the two courses, as indicated in the schedule just cited, were fused and made lower in grade and more general in character, owing partly to the lack of qualified teachers and students and the expense of adequate equipment and partly to a feeling that secondary education in China should not be highly specialized for the present.

Boys' normal school (two courses of study).—Ethics, education, Chinese language, writing, English, history, geography, mathematics, nature study, physics and chemistry, civics and economics, drawing, handwork, agriculture, music, and physical culture. Course A: The preparatory course, 32 hours per week; regular course, 33 first year; 35 for each of the remaining three years. Course B: Ethics, education, Chinese literature, mathematics, nature study, physics and chemistry, drawing, handwork, agriculture, music, and physical culture. Thirty-five hours per week.

Girls' normal school.—Generally similar to that for boys, except that agriculture is omitted and household arts, gardening, and sewing are added. The number of recitations is slightly larger than that required in boys' normal schools; however, English, requiring three hours per week, may be omitted.

Higher normal school is divided into three courses. (1) Preparatory: Ethics, Chinese language, English, mathematics, drawing, singing, and physical culture. (2) A regular course is offered in one of the following departments: (*a*) Chinese language; (*b*) English; (*c*) history and geography; (*d*) mathematics and physics; (*e*) physics and chemistry; and (*f*) nature study. All the departments have the following subjects in common: Ethics, psychology, education, English, and physical culture. (3) A so-called "research course" of intensive study in two or three subjects of the regular course.

The dominance of the classics in the modern schools of China has lasted for a very short time compared with the struggle against the classics in the educational history of other nations.

The organization of the *university* differs from that in force before the revolution in that the faculty of classics has been dropped. The preparatory department of the university has three groups of studies covering a three years' course. The first is for those wishing to enter the faculties of arts, law, or commerce; the second prepares for science, applied science, agriculture, or pharmacy; and the third prepares for the study of medicine.

There are five educational institutions of higher grade under the Government that are worthy of note. The work at the Government University of Peking, at Peiyang University near Tientsin, and at the Government Institute of Technology near Shanghai, has already been mentioned. Of Tsing Hua College near Peking and of the Teachers' College at Nanking we shall presently give some detail. Government universities are said to be contemplated at Nanking, Wuchang, and Canton but have not been organized as yet.

PROBLEMS BEING SOLVED.

Among present problems that are being solved we note: The more adequate rôle of the school in the development of moral character, the strengthening of school discipline, the more effective adjustment of education to the life of the pupil and the needs of the community, and, most important of all, the provision of a more adequate corps of qualified teachers through whom alone can these other problems be satisfactorily handled.

Some of the most important general problems remain unsolved, namely, the financing of the public-school system, the provision of universal education, and the relation of missionary institutions to the public educational system.

DEVELOPMENT OF MORAL CHARACTER.

The classics, which formerly constituted the center of the curriculum and supplied the ethical and moral ideals which produced such marked qualities in the Chinese people as a whole for many centuries, are now largely set aside. But even in the period of transition ethical instruction has had a prominent place in the curriculum, and since the inauguration of the Republic has received increased emphasis.

If it is remembered that before Abraham left Ur of the Chaldees China's system of education began, and that with a revision in 627 A. D. it continued until 1905 to drill all the scholars and statesmen of the realm in a system of ethics the cardinal principle of which

is filial piety; and if their history is then compared with the promise contained in the Hebrew Decalogue which says "Honor thy father and thy mother, that thy days may be long in the land which the Lord thy God giveth thee," it may readily be believed that here is at least one of the reasons for the survival of the Chinese people.

Of course practice is better than precept; and much remains to be accomplished in the line of providing teachers who will themselves truly exemplify the principles of right conduct and also provide opportunities for the spontaneous and proper expression of right instincts and impulses on the part of their pupils. This problem is intensified by reason of the long-established custom of suppression practiced by the old-style Chinese teacher.

SCHOOL DISCIPLINE.

During the first decade of the new education student bodies were noted for their unruliness; strikes and even riots were fairly frequent. This tendency to insubordination arose partly from a wrong conception of liberty and partly from the fact that the student body often included those advanced in age. Intensely nationalistic and eager to exert their influence, Chinese students have seized every political crisis to hold mass meetings, resulting in either advice or protest to the Government. The attempt to suppress these outbursts naturally caused friction, and the situation was often badly handled by school officials through lack of authority or of administrative ability. Sometimes the teaching body was to blame either because of an overbearing and haughty attitude or because of slackness and indifference. Owing to the enormous demand for teachers in these earlier years, many were appointed who were totally unprepared in both mind and spirit for the work of teaching. This problem of school discipline has begun to diminish as a better trained corps of teachers and administrators is being provided.

ADJUSTMENT OF EDUCATION TO LIFE NEEDS.

The effective relating of education to the life of those who receive it has yet to be accomplished in China. The conflict between book learning and the newer and more practical forms of education is now on in China just as it was not long ago in western countries, in which it is not even yet fully settled. The deeper questions of content and of method, such as have been raised by the necessities of war training in America, apply in a peculiar way also to China. Until very recently there was on the part of mission schools and colleges and also on the part of Government institutions too much of a tendency to import a foreign cap for the Chinese pate, and while the error of

this way is now fully realized the questions of curricula are still largely unsolved. Many experiments are being tried and much progress is being made, especially in the institutions where educational traditions are not overemphasized, and where there is a genuine desire to make education the real threshold to an efficient and happy life on the part of each pupil.

In the first place the former conception of education as preparation for official life, though greatly diminished, has not yet been completely replaced in the Chinese public mind by the broader idea of education as a training of each man for all phases of the life he is to live.

Secondly, in importing content and even method bodily from America (for the importation of educational ideas has been chiefly from America), there has been too little regard for the modifications that should be determined in view of the peculiar history of the pupils, racially and as individuals, and of the present-day status of their community in all phases of its life and of the need for an approximate but vital adjustment and solution of the many problems which China faces and which only her own citizens, properly trained and inspired, can solve.

In learning from the west, care must be taken not to sacrifice what is really essential in Chinese culture itself; there should be fusion, not substitution, and the fusion should be effected gradually rather than too radically. More attention should be paid to the acquisition of special skill rather than advancement in memory studies; and wherever possible all subjects, including history and other social sciences, should be taught by the laboratory method as well as the natural sciences. In fact, laboratory and field work should predominate. Only so can commercial, industrial, social, and spiritual reform be adequately promoted by and in the rising generations.

SUPPLY OF TEACHERS.

The greatest impediment to the progress of modern education in China has been and still is the lack of competent teachers in sufficient numbers. It has been impossible to recruit teachers from the old schools to any extent, because of the peculiar nature of both the content and the method of the old learning and also because of the conservatism of the old-style teacher.

The most available source of able teachers has been found among the graduates of the mission schools, but this supply is far below the demand, which naturally is constantly rising both in numbers and quality.

The next most immediate source was in the first decade found among those literati who attempted to prepare themselves as mod-

ern teachers by special short-cut study. Their chief recommendation was their earnestness, but even so they could hardly be depended on except as a temporary makeshift.

The use of foreign teachers has been confined to the higher institutions, beginning with the middle and normal schools. The number of such, however, has never been very large. In 1911 the total number of foreign teachers (this includes Japanese, of course, as well as Europeans and Americans) was but 545; in 1917, probably not more than 600.

At one time the number of Japanese instructors engaged in provincial middle and normal schools was quite large, but for a combination of reasons their employment has for the last decade almost entirely ceased.

The number of teachers recruited from students returned from abroad has been relatively small. Even those who have found positions in the schools rarely expect to devote their lives to teaching. There is great need that a larger number of Chinese students trained in America and Europe should respond definitely to the call of their country for well-trained native teachers and educational administrators. In more recent years some of the ablest of the returned students have gone into school work, but there is still an urgent need for a more adequate response in the right spirit. Too many of even the relatively small number who have entered educational work have failed to realize their obligations and opportunities and the necessity of a gradual development of their own capacities for the higher positions.

The ministry of education reported for 1918 a total of 150,000 teachers as against 89,766 for 1910 and 63,566 for 1908. Of these 84,755 were in schools of general culture, 2,712 in technical and vocational schools, and 2,299 in normal and teachers' training schools. While the largest number of teachers in the lower schools is found among the graduates of Chinese normal schools and training institutes, until quite recently the material attracted to the normal schools has been of relatively poor quality. The increase in numbers has, however, been very rapid.

The total number of students in normal schools and training institutes has grown as follows: 1903, 80; 1904, 2,400; 1905, 5,321; 1910, 28,572; 1918, 29,500. According to the Educational Directory of 1918 the number of Government normal schools of all types numbered 188, only 7 of which, however, offered the full higher normal course.

The most hopeful sign of the times with reference to the normal-school problem in China is the very effective and rapidly growing Teachers' College, which has been inaugurated at Nanking under

Dr. P. W. Kuo, a graduate of Columbia University. This institution founded in 1914 had in 1917 a faculty of 14 returned students from America, 8 Chinese instructors without modern degrees, and 2 Americans. The college is for men only, the average age of its 283 students being 22. A vocational middle school was opened in 1917 with 95 pupils. There is a primary practice school in connection with the college. This institution is serving as a model and its influence is being strongly felt. There is great need for more and better normal schools of this higher type to train teachers for the secondary schools.

UNSOLVED PROBLEMS.

Some of the most important general problems remain unsolved; namely, the financing of the public-school system, the provision of universal education, and the relation of missionary institutions to the public educational system.

FINANCE.

Funds for the maintenance of education are supposed to be regular items of the national and provincial budgets. The sources of revenue have been indicated as follows: (1) Income from public property, (2) interest from deposits, (3) Government appropriations, (4) public funds, (5) tuition and fees, (6) compulsory contributions, (7) voluntary contributions, and (8) miscellaneous sources of income. Some of the ways by which money has been raised are extremely interesting and at times pathetic. Money formerly devoted to religious processions, theatrical exhibitions, and clan ancestral halls is sometimes put into the school fund. Temples and monasteries were converted into schools, and temple lands and incomes appropriated. In some cases the return from gambling licenses has been devoted in part to education. Official recognition is offered to encourage private munificence. Some of the Provinces have increased the rate of certain local taxes, but such increases are said to have been generally small. Since the establishment of the Republic the practice of increasing the rate of local taxes for educational purposes has become more general, but as yet no system of general taxation has been evolved.

There is moreover a failure to discriminate properly between the Government tax and the local tax, and there is a constant conflict between the central and provincial governments as to remittances.

The solution of the problem of financing the new educational system is dependent upon the larger problem of the national revenue. Thus far the fiscal aspect of China's national life has been far from satisfactory. The successive and excessive revolutions have played

havoc with China's finances, and years must elapse before their effect ceases to be felt. It is estimated that the first revolution alone cost China in additional public expenditures and private losses a sum of about $172,000,000 United States currency, aside from the complete cessation of internal revenue for several months. The burden of maintaining the military in China is proportionately greater than in any other country not actually at war, amounting to as much as 40 per cent of her total national budget.

The simplest method of increasing China's revenue would be to increase the customs import duty which has stood for years at only 5 per cent, but this requires an international agreement on the part of the leading foreign powers in treaty with China who recently offered, in return for China's joining the Allies, to permit an increase to 7 per cent (really only an effective 5 per cent owing to scale of values adopted), which is still remarkably low when it is considered that many Chinese products entering the United States pay from 25 to 60 per cent duty. Unable of herself to determine her own policy of customs revenue, China's only hope for independence lies in the true observance of the open-door policy and the development of her natural resources with the financial and technical assistance of America and Great Britain and Japan; but in association, not separately. China's natural resources and her cheap and abundant labor still await proper development and application as the basis of all other prosperity, including educational development, and in turn popular education is a necessary accompaniment and adjunct of this material development.

One step toward a solution of the financial problem of general education would be the elimination of the great surplus of non-teaching officers; while in 1910 the Government teaching force numbered less than 90,000, the number of purely administrative officers was nearly 96,000. In 1918 there were probably 157,000 officers out of a total staff of 326,000. Private schools and those under mission auspices also should be encouraged, thus reducing the Government's burden at least for a time.

When in 1910 lack of funds prevented the establishment of a sufficient number of modern elementary schools for the masses, and an effort was made to reform the traditional schools already found throughout the country by introducing modern textbooks, etc., a scheme of inspection and reward brought surprising results; for example, in Peking, at an expense for awards of about $1,000, United States currency, no less than 172 of these schools with 4,300 pupils were developed within two years. Similar results were secured throughout the country, but statistics are not available.

UNIVERSAL EDUCATION.

The problem of supplying educational facilities for China's millions is so gigantic in its scope and so complicated in its character that its successful solution calls for not only the highest professional skill, but an even greater enthusiasm, patriotism, and altruism. Since the establishment of the Republic the problem of universal education has loomed large in the minds of Chinese statesmen and educators. Preliminary steps taken by the Ministry of Education have included an effort to establish compulsory education between the ages of 7 and 14; but naturally this is as yet largely unrealized, through lack of organization. Emphasis is now properly being placed on primary education, though at first Government educational plans were decidedly "top-heavy." Combinations recently effected in higher education have permitted more money to be devoted to primary schools.

Reliable data are not available but it appears that the proportion of children of school age who attend school varies considerably among the provinces, in some being as low as one-fortieth, in others rising to nearly a half.

Some idea of the growth of the Government effort in education may be had from the following data as to the number of schools of all grades under various native auspices:

Number of schools of all grades.

Years.	Government.	Public.	Private.	Total.
1905	3,605	393	224	4,222
1910	14,301	32,254	5,793	52,238
1915 [1]				122,286
1916 [1]				129,739
1918 [1]				134,000

[1] Details not available.

Of this total number of schools probably 125,000 are lower primary.

The total enrollment in schools under various native auspices in 1905 was 102,767, and in 1910, 1,625,534, whereas in 1903 there were but 1,274 students in all modern schools under native auspices. For 1917–18 the enrollment has been reported as 4,500,000, with an expenditure of about $40,000,000 (silver).

This problem of education for China's millions is fraught with difficulties. There should be 1,000,000 schools instead of 134,000, and an addition of 2,000,000 teachers, with all that is involved in the preparation of these teachers and the financing of the program.

Then there is the language difficulty. Since the Chinese language is not alphabetical, but ideographic, learning to read is a much

harder task than in most countries; and this is intensified by the fact that the written language is not the same as the spoken tongue, and that the spoken language is not the same over the country, but is subject to numerous dialects. The language difficulty is being overcome by: (1) Substitution of a rational process of learning the meaning instead of merely memorizing the sound of the character, as was the old style in elementary instruction; (2) use of graded and illustrated readers; (3) publication of books and papers in the vernacular specially adapted to the daily speech of the people; (4) in the hands of modern trained Chinese the written language proper is growing clearer through simplification of style and introduction of punctuation; (5) a more widespread and insistent emphasis on the study of Mandarin in all schools, in order to hasten the unification of the spoken language throughout China; and (6) a more widespread use of a properly developed romanized or phonetic form of the written language.

But development of the language so as to be able adequately to express the content of modern knowledge presents a most tremendous problem, which only native scholars highly trained in modern thought and equally familiar with their native tongue and its previous development can solve. It will take time, but this difficulty will ultimately be overcome. It is, however, an even greater problem than would have been presented had all the content of modern knowledge knocked at the door of eleventh-century English and demanded immediate expression. So long as this language difficulty remains so largely unsolved it will be necessary to conduct the higher grades of instruction in the sciences with English as the medium—at least for those who are themselves to be leaders in the renaissance. To have a share in the preparation of men who will solve this problem is about as far as the foreigner can hope to go.

GOVERNMENT ATTITUDE TOWARD MISSIONARY EDUCATION.[1]

Under the Manchu dynasty graduates of missionary schools were denied Government degrees and titles, and the schools were not even asked to register. When the franchise for the election of representatives to the provincial assemblies was given to certain classes of people the graduates of Government institutions were included, but not those of mission colleges. This discrimination was made, it is said, to preserve the national character of the new educational movement, and was neither anti-Christian nor anti-foreign. Though no definite action has yet been taken by the new Government regarding the relation of missionary education to the Government system, the subject is being studied.

[1] This section is based on Teachers College, Columbia University, Contributions to Education No. 64, by P. W. Kuo, New York, 1915, pp. 136–140.

The situations in Japan and India throw some light on the problem. In Japan a Christian school may hold one of three relations to the Government: (1) Government sanction involving practically no regulation or inspection, and imposing no religious restriction. (2) Recognition as a school of a certain grade, implying certain privileges and imposing certain conditions, but permitting full religious freedom. The chief privileges are the postponement of military conscription, admission to the higher Government schools, and the one-year voluntary military service after graduation. The chief conditions accompanying this form of recognition are that the curriculum of the school must, in the main, conform to that of the Government middle schools; certain regulations are imposed to safeguard the standard of the school; and the school must always be open to inspection. (3) Recognition of the school as an integral part of the Government system, subject to all the requirements and enjoying all the privileges of a regular Government school. It is supposed that this form confers greater prestige; but, of course, that depends on the true value of the Government's own institutions, and while of weight in Japan hardly applies in China, as yet. This form of recognition prohibits religious teaching and religious services. The prohibition is, however, carried out with varying degrees of strictness, according to the attitude of local officials. In most schools voluntary classes in religion are allowed at some time of the day either in or outside of the school buildings.

In India, where the educational system consists of institutions organized by private initiative but aided by Government grants, missionary schools, like other private schools, receive grants-in-aid if they are efficient in the secular instruction conveyed, whatever may be the arrangements for religious instruction. The amount and continuance of the assistance given depends upon the periodical report of the inspectors, who take no notice of the religious instruction, but merely ascertain whether the character of the secular instruction entitles the school to consideration in the distribution of the grants-in-aid.

The system of recognition which China might adopt should require the fulfillment of certain educational standards, but take no account of the religious teaching. Some missionaries consider that even the third form of the Japanese system is desirable, claiming that a better class of students will come to schools having this form of recognition, and that they receive religious instruction gladly and heartily when attendance is voluntary, so that though the direct results may be less, they are not forced products, but are of genuine and healthy growth; and that the school can be kept Christian in tone by other channels than the classroom.

There will need to be considerable progress in the Government's own educational program, and especially in the settling of its policy and in the choice of qualified administrators, before the missionary institutions could justifiably be subjected to any degree of real governmental control. And yet in due time the Government should exercise legitimate supervision of the educational work of the missionaries, as well as of other private educational institutions, so as to utilize all educational agencies to supplement the national educational work.

SCHOOL FEES.

Tuition in Government schools is determined by the head of the school concerned in accordance with the standard set by the ministry of education. In private schools it is determined by the organizers, but must be reported. Fees are charged at a monthly rate not exceeding the following schedule: Lower primary, 30 cents (Chinese currency); higher primary and elementary industrial, 60 cents; middle schools, one to two dollars; higher industrial, 80 cents to a dollar and a half; professional schools, two dollars to two and a half; university, three dollars; normal and higher normal, tuition free and cash allowances made to students.

The school year is divided into three terms: August 1 to December 31, January 1 to March 31, April 1 to July 31; summer vacation is from 30 to 50 days in July and August. Schools are closed on Sundays and on memorial days such as the anniversary of the inauguration of the Republic, October 10, and the birthday of Confucius; on these days special exercises are held.

Mission schools generally observe a two-semester year, September to January both inclusive, and February to June. Several also conduct summer schools in July or August.

Tuition fees in mission schools vary from nothing to a substantial figure in the best established institutions. As a rule the fees are small in the elementary schools, as these are often maintained chiefly for children of church members; in secondary schools the rates rise and in some of the mission colleges such as St. John at Shanghai, Yali at Changsha and Canton Christian College no difficulty is encountered in more than filling all available space at a tuition relatively much higher than is common in America. At Canton Christian College, for instance, the annual tuition is 15 to 25 times the cost of table board for one month, whereas in an American college with a tuition of say $150 for the year, table board would ordinarily not necessarily exceed $30 to $50 per month, a ratio of only one-fifth or one third. Of course in institutions where these higher fees prevail, numerous scholarships are required to provide for the poor but worthy student.

DEGREES.

When in 1905 the ancient system of literary examinations was abolished, the old style Chinese degrees naturally ceased also. It was then proposed to grant official degrees to graduates of Government colleges and to students returning from abroad upon their passing special examinations. This was abandoned in 1911 when a new civil service was inaugurated entirely separate from the educational system. Graduation from a college itself now confers a degree, which, however, is purely academic and carries no privilege of official preferment. Graduates of college or university receive the degree of "Chin Shih;" graduates of a high school and others of equal rank receive a "Kung Shen;" while graduates of a higher primary or lower industrial school receive a "Sheng Yüan."

American mission colleges grant the B. A. degree under supervision of the educational authorities of the State in which the home board of trustees may be organized. St. John's College at Shanghai, for instance, is subject to the final educational control of the District of Columbia, while Nanking University and Canton Christian College are under the Regents of the University of the State of New York, and their diplomas are granted under the Regents' supervision and seal.

STUDENTS ABROAD.

An important phase of modern educational development in China is that connected with the going abroad to study of a large number of young men and women. The earliest of these went to America and England in the seventies, but the most marked exodus was that to Japan after 1905.

Many of these students returning from Japan became strenuous agitators for reforms, often with no appreciation of the difficulties that could only gradually be overcome, and the Chinese Government at one time imposed restrictions on this exodus to Japan. In more recent years the numbers have been smaller from an entirely different cause. Owing to various actions and demands of Japan the patriotic spirit of the Chinese students has been now and again aroused and forthwith expressed by a protest in the form of a boycott of Japanese institutions. The most recent of these was in the spring of 1918 when practically every Chinese student in Japan either returned home or at least ceased to attend school. The second predominant factor has been the establishment of the so-called "indemnity scholarships" for study in America and the development of Tsing Hua College near Peking for the preliminary training of those who are to enter on such scholarships. According to the original plan 50 students are to be sent each year to the United States on indemnity

scholarships beginning with 1909. At first these were sent directly from various schools, chiefly the mission colleges, throughout China, after passing competitive examinations in Peking; then in 1911 the Middle School at Tsing Hua was established and now only candidates who first pass through this school are sent to the United States on indemnity scholarships. Others have been sent on scholarships from the provincial governments, especially since the inauguration of the Republic. Tsing Hua is now aiming to develop a collegiate department of its own so that hereafter most of the indemnity scholars coming to America will come for graduate work only. While we believe that many of those who have come thus far have come at too early a stage, there will not be a true fulfillment of the purposes of the foundation in promoting the mutual relations of China and America if this development of higher work at Tsing Hua prevents an adequate number of qualified students from actually reaching America: for only by their bringing to Americans through personal contact in the United States an appreciation of Chinese characteristics and taking back to China the best that our civilization in all its phases has to offer them can the two peoples be brought effectively together, which is the real purpose underlying the return of the indemnity fund.

In 1917 Tsing Hua College had an enrollment of 624, all boarders, of an average age of 16, while the staff included 25 Chinese trained in the United States, and 17 Americans, as well as 19 Chinese without a foreign training.

It is reported that the Japanese Government has proposed to use a part of the 1900 indemnity fund still due to it in the establishing in Peking of a school similar to Tsing Hua, in which students will be prepared under a faculty of Japanese and Chinese returned from Japan, for further study in Japan: and thus form a basis for the development of a better mutual understanding.

Prior to 1907 students abroad were under the care of China's diplomatic representatives. In 1907 a Chinese Educational Mission was organized to supervise all such students, especially those sent under indemnity scholarships, and in 1913 all students supported by the provincial governments also came under this educational mission's general supervision. In 1909 there were in Tokyo 1,992 Chinese Government students in collegiate schools and 395 in military schools, totaling 2,387; besides 2,500 private students. In 1910 5,000 private Chinese students were resident in Japan, 150 of them women. The same year in the United Kingdom there were some 140 Chinese Government scholarship students and an equal number supported by private funds: in Belgium, 70 Government students; in France, 80; in Germany, 60; in Austria, 10: in Russia, 15. No information as to the number of private students in these countries is available. In the

United States in 1910 there were at least 600. For the academic year 1918–19, besides 373 "indemnity students" in this country, 38 of whom are women, there are 30 students supported by the Central Government and 183 supported by various provincial governments, of whom 8 are women. There are also some 764 studying in America on their own resources (the number of women in this group has not been available); making a total of 1,350, of whom 250 are in preparatory school and 1,100 in college.

EDUCATION OF WOMEN.

Although women had no proper place in the old educational system of China, almost immediately after the new era dawned for men came that for women also. Of course mission schools for girls have existed for many years (since 1844) but they have never had adequate emphasis, and even to-day there are not more than three institutions in all China where women can get collegiate training of proper grade; these are all under American mission auspices. It was 50 years after the opening of the first mission school for girls that the first modern school for girls under Chinees auspices was opened (Shanghai, 1897).

Prior to 1907 Government officials emphasized the importance of educating women, and some of the Provinces established girls' schools, but the Central Government attempted neither to provide nor to regulate them. In 1907, however, official provision was made not only for primary schools for girls, but also for normal schools, and women have been given Government scholarships for study abroad. At the present time there are 46 such in the United States, and about 80 others dependent on private support.[1]

There are to-day scores of girls' normal schools of more or less excellence, and Chinese opinion is rapidly developing a new status for the women of Cathay. Certainly there is no more significant factor in the renaissance of China than this; but very much yet remains to be done, and many first-class high schools and a few first-class colleges for women are greatly needed.

Among the higher educational institutions in Canton, for instance, which attempt to serve a region of approximately 30,000,000 population, there is no provision for college work for women, except at the Canton Christian College, in connection with the regular courses for men also, and no adequate provision for first-class high school education for girls, though at least one of the mission schools is aiming to develop such. It is a time for the concentration of all forces whose combined strength will be needed to meet the opportunity adequately.

[1] Data as reported through the Chinese Students' Alliance and through the Educational Commissioner in Washington differ.

III. EDUCATIONAL NEEDS AFFECTED BY INTERNAL CONDITION AND INTERNATIONAL SITUATION.

A review of China's internal condition and international relations leads to certain conclusions regarding the types of education most urgently needed.

The knowledge, morality, comfort, and organization of the Chinese people are all below the level that might be maintained. The earth brings forth plentifully, but the homes of the people are barren and squalid. In spite of the wonderful career of that great and awful Manchu woman, the late Empress Dowager, the place of woman in general is low, and home life is impoverished. The ethical standards of Confucius are very high, and in some respects the morality of the people is greater than in most other nations, but in many respects their ideals are very low. Modern science has not sufficient development to offset demonism and superstition as potent factors in the life of the people. China is not yet able to conduct her own educational work successfully without at least a measure of outside assistance. Her material development is only begun, and her moral development is slow. The arguments for large educational effort derived from these facts are largely independent of the critical situation of China at the moment, except as the factors mentioned have been in part responsible for her coming into that situation; but these arguments are greatly reenforced by the special conditions existing in China at this time and affecting the whole international situation.

China is destined to become one of the foremost producing nations of the world, a vast market, a huge stabilizing, peaceful power if allowed to develop its great wealth in its own way. The problem of China is a world problem, culturally as well as commercially.

Western nations, having forced their intercourse on China, have now the responsibility to safeguard her independence and the best interests of the Chinese people as well as to look after the development of trade.

The issue in the Orient is sharply drawn: Independent national development for China, and continued progress of the other free Asiastic States; or the subjection of China, and the endangering of all free nationality in Asia.

The loss of free nationality in Asia would be a calamity to mankind. However justly the occidental may pride himself on his mastery of the art of living, however truly he may rejoice in his achievements throughout the whole reach of life, a sane modesty, taught him by his own science, should keep him from regarding western peoples as the whole race of man, or from looking with scorn upon entire divisions of the race, whom his training has not fitted him to appreciate.

A proper reverence for humanity will not allow him to exalt his own position at the expense of the entire East, or to attempt crudely to force upon a whole continent external domination or those forms of civilization which are the product in some part of himself.

From the higher level of human development we may feel that the world is destined to profit greatly by events in the Far East if they result in restoring to humanity the whole of Asia, free to join in making the history of the next hundred years, free to be itself and to supplement, with all of good there is manifest or dormant in it, the strength and goodness of the West.

The shortest road to a partial success in this endeavor to preserve free nationality in Asia is the development of China's material resources, which will not only enrich China and the world, but will help to arouse the people from their age-long sleep, and to create a sense of nationhood.

But China's independence should concern her friends in the West chiefly because such independence is essential to something far more important: True freedom for the Chinese people. The dormant powers now awakening in this race and promising such a future for it in the commercial and political affairs of the world demand imperatively that there be set in motion, side by side with this material transformation, forces far more subtle that shall bring about a true renaissance of the nation by influencing profoundly the intellect and the soul of the race. Only so can the Chinese people be speedily restored to the modern world.

It is significant that the greatest physical achievement of the ancient Chinese, the Great Wall, which was constructed to shut out foreign intruders, has been broken down in all essential respects, and China is to-day fairly ready for foreign assistance in solving her problems, if it be friendly and not predatory.

This nation, whose past achievements rank among the wonders of history, this ancient and largest of all the nations, lies helpless among the powers of the present day, surviving through the protection arising from the balance of competitive interests of the larger powers.

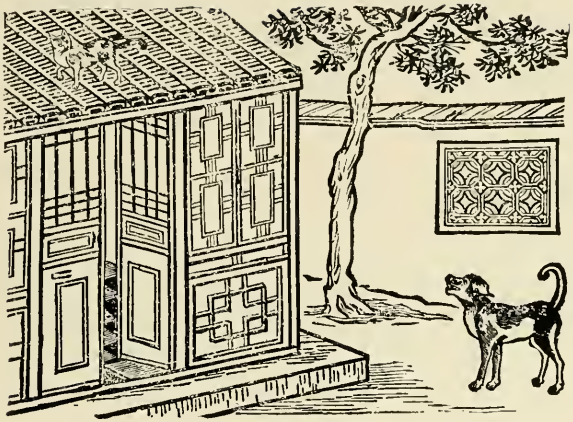
The reason for this is complex, but the solution is clear. The introduction of foreign capital, the internationalization of foreign

A. LITTLE NURSES CARRYING BABY BROTHERS.

B. STREET SCENE IN HONGKONG.

A. CLASS IN ARITHMETIC IN THE METHODIST MISSION, CHIN KIANG.

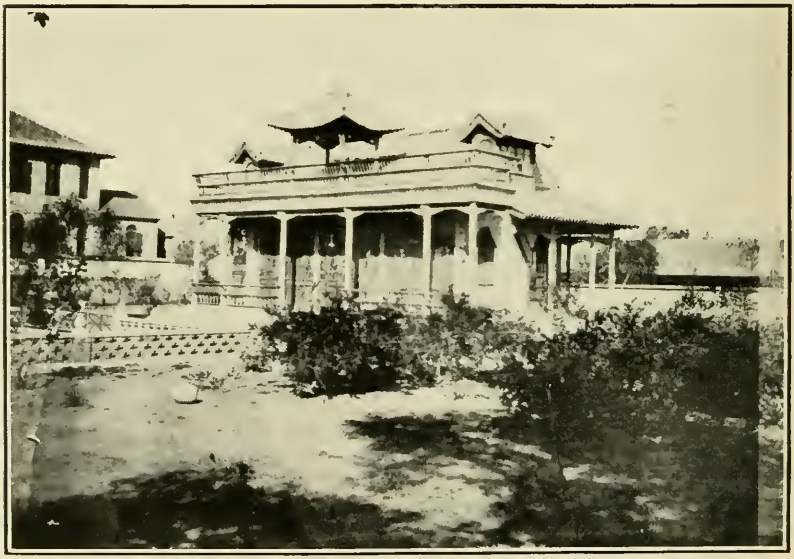
B. ENTRANCE TO PROVINCIAL BUREAU OF EDUCATION, CANTON.



犬大貓小
貓見犬
登屋上
犬不能逐
向貓狂吠

A PAGE FROM A MODERN CHINESE PRIMER.

A. Entrance to grounds.



B. Reception Hall.

PROVINCIAL COLLEGE, TSINAN, SHANTUNG.

interests in a cooperative spirit with China, and the supervision by a league of nations constitute the chief hope at present for China's foreign relations and even for her internal development. The fundamental element in all this from the Chinese side is more general education of the people to give the background for progress and the training of native leaders upon whom must rest the responsibility for carrying out in detail such plans as may be formed for the alleviation of present conditions. In order to determine just what methods should be followed, there is at the present time a most important function for foreign experts to fill in connection with the development of China. Their work is a necessary preliminary, and hence it is all important that China seek and use the assistance of such men, although it is also true that her need for such assistance will be temporary, and the application of the remedies which they may suggest after a study of the field will still depend upon native talent.

It is just here that one of the functions of our mission colleges in China comes in—to train these leaders in situ, without loss of connection with China; for they need to know China as well as western science and institutions and methods. They need to be qualified and unselfish, then the five points of the compass assumed by the Chinese may be rightly adopted—for the north, east, south, and west will then be centered around the common pole of service to China, and from the Provinces to Peking and from Peking to the most distant Provinces the people will be united in an efficient, peaceful, and helpful State.

Because of the indemnities imposed on China from time to time as a result of the character of her reactions when foreign intercourse was forced upon her, and because of the consequent control of her customs revenue and of her salt tax, the returns from which are pledged for the discharge of these indemnities and for the repayment of foreign loans, China is not really independent but is subject to a measure of foreign control. The extraterritorial supervision of foreigners resident in China by their respective Governments instead of by the Chinese administration, which is not yet worthy of that confidence, and the condition under which railway concessions have been granted to foreign capitalists are two other aspects of China's international dependence.

The great need is for such a revision of these relations as to provide for cooperation rather than competition in such control. The open-door policy needs to be lived up to by all concerned. The map should be cleared of the present railway proposals which have often been obtained without due regard for the real industrial development of China and they should be replaced by a comprehensive scheme of railways for the whole country, determined purely from

economic and engineering considerations and financed and developed under joint international auspices in close cooperation between the powers, including China herself, to whom after a period the roads should revert under proper condition.

The five urgent needs are: Cooperation (international and internal), capital, organization, native leaders, and regeneration of the people.

To all of these, but especially the last three, the development of education is fundamental.

Certain types of education demand special attention if China is to be prepared adequately to meet even her immediate needs. These are the departments of engineering, agriculture, and medicine.

ENGINEERING.

The ever-increasing outside demand for China's products makes it imperative that she be integrated industrially as well as politically, for only by responding adequately to this call of the time for industrial development can she retain even that measure of national independence which she still possesses and lay the foundation for ultimate complete independence.

Of primary importance in this connection is the more adequate development of better means of communication, railways, trolley lines, automobile roads, telegraph and telephone systems, etc.

This development of communications is not only fundamental to other industrial development but is of special urgency in China in order to permit the more rapid and adequate movement of food supplies, and so alleviate the famine conditions frequently arising as a result of floods. Furthermore, the development of the lines of easier transport of both goods and people will serve to unify the peoples and bind them together, whereas now it is exceedingly difficult for a sense of nationhood to be developed among a people so widely separated by rivers, mountains, and dialects, with no trunk lines connecting the north with the south or the east with the west. The existing railways are practically confined to the northeastern quarter of the country, and the total in the whole country is a little over 6,000 miles, whereas we are finding our 260,000 miles inadequate for a country of the same size.

It is essential that within China's own borders adequately equipped schools should be established in which the Chinese may be taught the arts and sciences necessary to the development and maintenance of such utilities.

Fundamental to railway and other industrial development is the exploitation of the mineral wealth of China, especially that in coal, oil, and iron, as well as the ore deposits of other metals. Many "big

statements" have been made as to the mineral wealth of China, but although several very general and inadequate observations have been published by foreign travelers qualified to judge, the fact is that this class of natural wealth in China has not been really surveyed. It is certainly true that whatever explorations may have been made, as undoubtedly several have been, under private foreign auspices and for private information, they have not come to public knowledge. There has been as yet no geological survey of Chinese dominions, and the Chinese themselves have never developed the art of mining to any great degree. There is urgent need of scientific investigation under China's own auspices of both the general geological structure and the specific commercial values. This indicates another class of education which is greatly needed by the Chinese. The actual reconnaissance would in great part furnish the means of such training in a working form. The intellectual processes which would be developed in this work are precisely those which the youth of China especially need as a corrective of the traditional neglect of the inductive method; and the intellectual and even ethical results of a thorough investigation of the natural resources of their land, even though inspired primarily by economic considerations, would, if carried out on broad and sound lines, be greater even than the industrial and commercial results.

Some attempt to meet the need of education in the various lines of engineering is being made at Peiyang University, the Government university at Peking, the Mining and Engineering College maintained in connection with the Peking-Mukden Railway at Tangshan three hours east of Tientsin, at the Government Institute of Technology at Shanghai, and in a less substantial way at Taiyuan in Shansi and at Chengtu in Szechwan. There is also the engineering department of Hongkong University, which, however, is strictly speaking not in China and can never affect the same result as an institution on Chinese soil and under Chinese control. None of these institutions are really adequately equipped or manned in comparison with the need for high-grade engineering education, nor are any of the mission colleges prepared as yet to render any adequate service in this connection.

AGRICULTURE.

The fundamental industry in China is agriculture, some two-thirds of the entire population being thus employed; and because the more complicated industries based on the mineral resources are so largely undeveloped and will be slower in their more adequate improvement, the resources of the soil are of special and more immediate importance. Perhaps the greatest opportunity for industrial improve-

ment in China lies in this department. The methods and the very implements are said to be the same to-day as in 2700 B. C. The Chinese agriculturist is an expert intensive gardener, but knows little of extensive farming or of the improvement of plants and animals by selection and breeding. Moreover, the area under cultivation could be greatly increased. The use of the grass lands for cattle raising and the development of dairy products as well as a meat supply offer a tremendous opportunity.

With proper organization and administration along these lines of education and the development of communications, the land could readily support not only the present population with a greater margin of livelihood but would even produce raw materials and foodstuffs for export in much greater quantities than to-day.

The afforestation of China's hillsides is imperative; for at least one-sixth of the area of China proper that is the only hope. Besides the need for fuel and for building timber, there is the urgent matter of flood prevention by control of rainfall and run-off over these hilly and mountainous regions. While a forestry adviser (an American) is employed by the Central Government, it is a question whether his advice is adequately followed or whether he is given any opportunity to effect the sorely needed improvement.

Finally there is the great problem of conquering the desert lands. Perhaps a twentieth of China proper is so arid and sandy as to be put in the desert class, and there are besides the extensive deserts in the dependencies of Mongolia and Chinese Turkestan. In view of the need to overcome the great deserts of America, Australia, and Africa, as well as these in Asia, this problem of developing plants and methods that will aid in creeping out step by step upon the desert instead of allowing the desert to advance upon the present habitable areas is of great importance to mankind. To its solution the Chinese, if trained in scientific lines and imbued with the scientific spirit, will be no mean contributors.

All these considerations emphasize the need for agricultural education in China not only for China's benefit but also for that of the world at large.

The Central Government has undertaken the development of a School of Agriculture and Forestry in Peking, and a few of the Provinces have local experiment stations with some attempt at instruction. In two Provinces, Shantung and Szechwan, a large number of so-called agricultural schools are reported in the Educational Directory of 1918, no less than 67 and 17, respectively; but it is to be feared that these as well as the other 8 Government agricultural schools reported for other Provinces are of inadequate grade and attainment. The institutions under missionary auspices which lead in this work are the Nanking University and Canton Christian

College, where courses of collegiate grade both theoretical and practical are offered in the various phases of agricultural education. It is encouraging to note how popular these courses are. There is no limit to the opportunity for effective service in this department except that imposed by lack of funds.

MEDICINE.

Disease is rife throughout China and the death rate is probably higher than in any other country. The mental power and economic efficiency of the nation as a whole is thereby greatly lessened. The predominant diseases are tuberculosis, hookworm, and syphilis, while cholera and bubonic plague rage at times, the latter especially in the south. Famine is frequent in both north and south owing to devastation by floods or destruction by drought.

Unhygienic conditions are somewhat offset by the fact that uncooked food is rarely eaten and the customary drink is weak tea made with boiling water. A public health service is almost unknown and therefore smallpox, tuberculosis, and leprosy go practically unchecked. The outbreak and spread of bubonic plague in 1910–11, however, aroused the Government, and some measure of a preventive service has been established. The autopsies permitted during this epidemic led to the official authorization for autopsies and dissection throughout China beginning November, 1913; but full advantage of this new and important privilege can only be had gradually.

From very ancient times China has had her own practitioners of the healing art, and there is quite a volume of Chinese materia medica. Quinine, for instance, is well known and widely used, and inoculation for smallpox has long been practiced. There is a very thriving business to-day in patent medicines, among which, unfortunately, certain foreign concoctions predominate; and through some, sent in largely from Japan, the morphia habit is all too readily assuming the rôle formerly played by opium. There is no legal control of the practice of medicine in China. The Chinese old-style practitioner has no knowledge of surgery.

Private practitioners of western methods are for the most part confined to the treaty ports; among them are a few Americans or Europeans but more Japanese, mostly of inferior training. There are perhaps 60 or 70 Chinese modern physicians educated in Europe or America, but most of these work in hospitals or medical schools, not as practitioners. There are a few graduates from missionary medical schools who are now practicing, but there have been to date probably less than 160 such graduates and many of them are working in mission hospitals or medical schools. On the whole, then, outside the mission hospitals and outside the treaty ports there are very

few practitioners in China who have had any training in western medicine and almost none who have been adequately trained.

The first hospital in China was established in Canton under American missionary auspices in 1835. The first Government hospital was inaugurated at Tientsin as late as 1904 under army auspices. The only hospital for the insane in all China is also in Canton and maintained by American missionaries. Although medical instruction began decades ago in an informal and inadequate way in connection with the mission hospitals, medical schools even under missionary auspices are of only recent development, mostly since 1908.

A dozen medical schools under Protestant missions, with a total foreign staff of 80 and a modern-trained Chinese staff of 30, look after some 600 students, of whom less than a hundred are women. Two-thirds of all the medical and also educational work in China under Protestant missionary auspices is conducted by Americans. Some 250 American physicians and 90 nurses, aided by 20 Chinese physicians (modern trained) and 400 assistants and 600 nurses, attend annually some 2,300,000 patients. The value of this medical work in removing prejudice can not be overstated, not to speak of its real humanitarian value as such, which appeals to the Chinese sufficiently to draw contributions of some $500,000 Chinese currency annually for the support of medical work under American auspices. The chief centers for this hospital and educational work are Mukden, Peking, Tsinan, Chengtu, Hankow, Changsha, Nanking, Hangchow, Shanghai, Foochow, and Canton. The foreign staff of a missionary medical school ranges from 4 to 14, the investment in plant from 10,000 to $210,000 each, and the annual cost of maintenance from $10,000 to $50,000. The number of graduates is small, totaling to date about 160; tuition is low, $100 Chinese currency, or less.

The Central Government maintains two medical schools, one in Peking and one in Tientsin in connection with the army. Provincial medical schools have been attempted at Tientsin, Wuchang, Nanchang, Soochow, and Canton, perhaps elsewhere also, but except at Tientsin they have not amounted to much. Except the Peiyang Medical School at Tientsin they are largely under Japanese influence. This Peiyang Medical School, which must be distinguished from the Peiyand Military Medical College also at Tientsin, gives probably the best medical instruction of any Government institution. It is the outgrowth of the work of Dr. John Kenneth McKenzie, of the London Missionary Society, whose skill attracted the attention of Li Hung Chang when he was Viceroy of Chihli. It is now officially recognized and supported as a Government institution. Recently it has had on its staff three French professors, supplied by the French Government. All instruction is in English.

In November, 1912, the ministry of education issued outlines and regulations for "special medical colleges." These are meant to correspond to the schools in Japan similarly designated; a four-years' course, for which the curricula must be approved by the Board of Education, though the school may be developed under private auspices. Such are being conducted at Nanchang, Wuchang and Canton where there are two, although one of them is largely inspired by and dependent on the efforts of two American physicians.

The total enrollment in these Government and special medical schools is about 700. All of them lack access to satisfactory hospitals for clinical instruction.

There could be no greater force for the regeneration of China than an adequate corps of well-trained Chinese women physicians inspired with high ideals of character and service. Yet there are but three institutions under missionary auspices, and but one under Chinese auspices where any attempt is made to provide women with medical education, and all of these are small, poorly equipped, understaffed and ill-prepared to train competent physicians. Of course, the girls of China lack as yet adequate preliminary education, but this condition is improving. There is of course great need for high grade nurses as well as physicians. Even from the existing schools, the oldest of which dates from 1900, there are but a hundred graduates all told, and most of them could not rank as independent practitioners.

Besides the missionary medical schools there are a few schools under foreign semigovernment auspices, inspired probably by motives of political policy. At Mukden, the Japanese have inaugurated a promising school with a staff of 20. At Tsingtau and at Shanghai, the Germans had begun the preliminary stages of modern medical schools when the war stopped their progress. At Canton the French conduct a hospital and medical school, with three physicians detached from the French Army; but it is entirely inadequate as a teaching institution.

No medical school in China is adequately equipped and none is adequately manned, though some include on their staff most excellent men who aim at high standards and are following sound policies. The whole aspect of this problem has been modified within the last few years by the entrance into the field of the China Medical Board of the Rockefeller Foundation, who have stimulated real progress by giving aid under proper conditions to a number of hospitals throughout the country, by affording opportunities for further training and research to a number of missionary physicians when on furlough and to a number of Chinese graduates in modern medicine, by assisting in the development of more adequate premedical courses at Changsha, Shanghai, and Foochow in connection with existing institutions.

by strengthening greatly the medical school of Shangtung Christian University where the medium of instruction is Mandarin, and by the reorganization of the Union Medical College at Peking, where the medium of instruction is English. In connection with this last institution a premedical faculty has also been provided, and for the hospital and medical schools very extensive buildings are now in course of construction at a cost of several million dollars gold.

A large medical faculty is being provided and their work will without doubt greatly affect medical standards throughout the land in due course. But in view of the great need for adequately manned hospitals all over the land, and for qualified private practitioners, only the surface of the problem has been touched.

The China Medical Board proposes in due time to establish a similar plant and staff at Shanghai. South China, properly speaking, is still neglected, although the region of Canton is especially rich in clinical material of all sorts, particularly of certain tropical diseases. The medical school of Hongkong University which is not on Chinese soil, charges very high fees and does not have a whole-time faculty, but is manned almost entirely by physicians whose chief concern is their private practice. These reasons, especially in view of the natural attitude of the Cantonese toward an institution wholly under British control and on British soil, make it extremely desirable to develop in Canton a medical school of the highest grade under joint missionary and Chinese auspices. The time is ripe, if only adequate funds are made available. No greater opportunity for effective philanthropic investment can be found in China than now offers in connection with medical work at Canton where 90 years ago such work entered China, and yet where existing institutions to-day are not adequate to the situation.

IV. CAUSES OF BACKWARDNESS.

The fundamental element in the three types of education just discussed is, of course, natural science in its many branches, and this involves the realm of ideas most in contrast with the content of Chinese education of the old type. But even more fundamental than the difference in content is the difference in method and attitude, for it is here that the major causes of China's backwardness in science are discovered.

ABSENCE OF THE INDUCTIVE METHOD.

"Method" is the distinguishing characteristic of modern science, or more specifically "inductive method." This has been almost completely lacking among the Chinese, whose philosophers have preferred a priori deduction, and given greater weight to analogy.

Western teachers of Chinese students are constantly impressed with their readiness to argue by illustration and to accept a single illustration as proof; not that they consider that a single exception to a rule invalidates its generality, but that from a single case a general law can be deduced. This is well shown by the following reply which was made by a college freshman in his geometry examination to the question: "What is a locus?" the class having spent a due proportion of the term on loci problems. He was by no means an unskillful logician from the Chinese point of view, though he may have lacked geometrical perception, when he answered "A locus is a straight line all the points of which are equally distant from the two sides." For he was simply attempting to put in generalized form the first case of a locus which the class had studied, viz, that the perpendicular bisector of a straight line is the locus of all points (in the plane of the two lines) equally distant from the extremities of that line.

The method of the Chinese philosophers was a priori, and it seems that they adopted this course, not through ignorance of the experimental method, but from choice. The maxim of Confucius that "knowledge comes from the study of things" could not be more out of place than it is in his pages. The Chinese claim that their sage wrote a treatise on the experimental study of nature, but that it was lost; and thus they explain the backwardness of their country in experimental sciences.

Practical as the Chinese confessedly are, it is rather remarkable that in the study of nature their philosophers have made practically no use of the inductive method, though it appears that some of them at least had glimpses of its virtue as early as 500 years before Bacon. In the writings of the brothers Cheng there is the following question and answer:

One asked whether, to arrive at a knowledge of nature, it is necessary to investigate each particular object; or may not some one thing be seized upon from which the knowledge of many things may be derived.

The master replied: "A comprehensive knowledge of nature is not so easily acquired. You must examine one thing to-day and another thing to-morrow, and when you have accumulated a store of facts your knowledge will burst its shell and come forth into fuller light, connecting all the particulars by general laws."

We say they had glimpses of the virtue of the inductive method, for it is hardly to be asserted that a philosopher really appreciated a method which neither he nor his disciples practiced but merely spoke of once. Contrast with the quotation just given this saying of Chang, the second of the five great thinkers of the Sung dynasty:

"To know nature, you must first know Heaven. If you have pushed your science so far as to know Heaven, then you are at the source of all things. Knowing their evolution you can tell what ought to be, and what ought not to be, without waiting for anyone to inform you."

Between these two dicta we see the parting of the ways—one leading only to a maze of hazy unverified and unverifiable speculations, the other destined to bring any philosopher who followed it into the presence of valid generalizations based on observation; and we see the sages of China choosing the wrong pathway, vainly seeking a short cut to universal knowledge by following what they considered by the light of inner reasoning to be the order of nature, instead of laboriously studying one thing at a time in order to connect "all the particulars by general laws." Had her early thinkers taken the suggestion of the Chengs as their guiding star, China might to-day be the dean, instead of the most backward pupil in the school of science.

SPIRIT OF INACCURACY.

A spirit of inaccuracy or of indefiniteness, of being satisfied with very approximate statements, as well as with assumptions instead of proofs and of generalizing from a single case, is most prevalent and will only be dispelled by the spread of modern education. There is no more vexing factor in the life of a foreigner in China than the

utter lack of accuracy among the Chinese in most matters involving numerical relations. The ordinary troubles that one has with careless and even dishonest workmen and contractors are enhanced manyfold by reason of the discrepancies between the various measures used for different purposes though called by the same name. The history of the method by which the units were adopted and fixed is lost in antiquity, and the variations in the measures now used destroy any claim that there ever was among them a true standard such as those recognized and employed by western peoples to-day. For instance, the chih or unit of length differs according to the province and the prefecture, the city and the ward, the craft and the usage. There are over 100 different values of the chih actually in use. Some of these are doubtless derived from ancient official chih, but the majority seem rather to be due to caprice of custom. The variations are by no means small, the extreme values differing on the average by more than 6 inches in a unit of approximately 14 inches. In some places the carpenter's foot rule is 11.14 inches long, whereas the mason's rule is as short as 10.9 inches, so that in a building 100 feet long, if this difference were not realized by the architect, and he furnished the same specifications in Chinese measure to masons and carpenters, the frame of the house would overhang the stone foundations by 2 feet. In most cloth shops there is one measuring rod to use in buying and another to use in selling; and it does not take a Solon to tell which is the shorter. The maker of measuring sticks or of balance rods keeps a stock of ungraduated blanks and will insert the brass points to suit the wishes of his customer. Nearly every householder has his own set for checking again against those of itinerant vendors of dry goods and foodstuffs.

The distance between two points A and B, according to Chinese representation, depends not merely on the geometrical factor, but on others that determine the relative facility of travel between these points. It is farther from A to B than from B to A if B is upstream from A on a river, or at a greater elevation on a hill road. It is farther between A and B at night or when raining than it is by day or when clear. While, of course, the practical philosophy of this way of regarding distance is evident, it still is true that such failure to separate these factors from the geometrical factor in the form of statement operates to retard appreciation of accurate statement and accurate thinking.

Paper may be sold by the hundred sheets; and yet by a desire to keep the stated cost per hundred uniform in spite of variations in quality, the dealer will "call" a less number of sheets a hundred sheets, so that when I requested my servant to buy a hundred sheets of a certain paper he returned with 80 and insisted that "in that kind of paper a hundred sheets are only 80."

The traditional unscientific and unquantitative attitude toward business was well illustrated in the founding of the Hanyang Iron Works, for Chang Chih-tung when he ordered from abroad the machinery for China's first modern iron works, not only did not know where he was going to locate the plant, but he did not know what type of ore it would have to handle, for no ore had been discovered. When he ordered the machinery he was stationed in Canton, and when it reached China he had been transferred to Wuchang, and it was pure good luck that ore suitable for the type of plant he had ordered was actually discovered below Hankow and a good coal mine found above.

Although a first impression of China and the Chinese may be that of deadening uniformity, it takes but a little closer observation to show that this is just the opposite of the truth. Along with the manifold divergencies in speech and customs, which play a paramount part in the life of the people, and which by a common saying do not run uniform for 10 li (3 miles) together, there is a like diversity in those standards of quantity upon the absolute invariability of which so much of the comfort of life and the entire advance of science in western land depends. So far from suffering any inconvenience in the existence of a double standard of any kind, the oriental seems keenly to enjoy it, and two kinds of weights, or two kinds of measures seem to him natural and normal, and modern education is only just beginning to open his eyes to the inherent objections.

The whole Chinese system of thinking is based on such a different line of assumptions from those to which we are accustomed, that they can ill comprehend the mania which seems to possess the occidental to ascertain everything with unerring accuracy. Curiously enough, concomitant with the early development of their system of weights and measures—a decimal system for the most part—the Chinese have become fixed in the habit of reckoning by tens, and frequently refuse to make a statement of number nearer to the truth than a multiple of 10. An old man is "70 or 80 years of age" when you know for a certainty that he was 70 only a year ago. A few people are "10 or 20," a "few tens," or perhaps "ever so many tens." The same vagueness runs in all their statements, and for greater accuracy than this the Chinese do not care, except when you are paying them money.

The first generation of Chinese chemists will probably lose "a few tens" of its number as a result of the process of mixing a "few tens of grains" of something with "several tens of grains" of something else, the consequence being an unanticipated explosion.

The Chinese are as capable of learning minute accuracy in all things as any nation ever was—nay, more so, for they are endowed

with infinite patience, but the point here is that as at present constituted they are entirely free from the quality of accuracy and that they do not know what it means except as they come under modern education.

FIVE OTHER CAUSES.

Another cause of China's backwardness in modern science is to be found in the lack of mathematical knowledge, or the failure to apply it. Even though Chinese philosophers early made most remarkable independent advances, especially in algebra, the knowledge of mathematics is to-day very small among Chinese scholars except where they have recently been under foreign instruction.

The language difficulty has already been sufficiently outlined. The old system of education quenched the spirit of inquiry and neglected to include knowledge of science as a requirement for political preferment, which was the end of all education. The influence of astrologers, fortune tellers, and geomancers was reinforced by the official indifference regarding popular education so long as the Government felt that its own security depended somewhat upon the upholding of ancient superstitions and reverences, an attitude which fortunately has now seen its day even in China.

OUTLOOK.

A more widespread contact with translations of western books is slowly but surely bringing the reading Chinese into a fuller appreciation of western or more scientific thinking. Their increasing familiarity with the inventions and methods of the West is undermining their superstition, as is, also, the spread of Christian theology.

The changes in the method of instruction and the system of education are for the most part tending to develop a spirit of inquiry and an appreciation of the inductive method, which is beginning to yield due fruit. When the influence of returned students who have been adquately trained in western countries and that of the graduates from first-class mission and Government colleges becomes more potent, we may expect to see a much more rapid development of the educational system, but here again the magnitude of the undertaking and the difficulties as to efficient teaching force and adequate resources are such that only natives can achieve the ultimate solution. We teachers from abroad can hardly expect to do more than to give the impulse and to help in the preparation of the vanguard of such an advance.

When special and general education has proceeded far enough to provide the trained men needed to make the various adjustments involved in the tremendously complex renaissance of this nation and to have provided the background of an enlightened people, there will

of a surety be found among Chinese students many who will desire to follow the torch of learning and of truth for its own sake, some of whom will attain a high degree of analytical power and experimental skill, for the Chinese after all are capable of exact and careful thought under right conditions, and moreover possess unusual patience and manual skill. The Chinese have a power of application and a capacity for detail that is destined to bring success in scientific inquiry when once they get the background, adopt the method, and make the start.

The irresistible progress destined to be made by western science among the Chinese will surely undermine their faith in the Book of Changes, which is at the base of Chinese philosophy. Whatever is permanently true will remain in imperishable blocks, but the structure as a whole will fall in ruins, with Chinese ideals pitilessly and irrevocably shattered. At this critical period of the disintegration of outworn forces, what new moral and spiritual ideas are to replace the old in order that the new state of these people may not be worse than the first?

Mere education in the science of the west, mere contact with western civilization, commerce, railways, telegraphs, mines, etc., can not be expected and are not calculated to regenerate China, because they have no direct moral or spiritual value, and the Chinese seem never to have been profoundly moved by other than moral and spiritual forces.

Education which deals only with coordinated physical or mental facts, conducted however thoroughly, does not prove adequate for the regulation of the conduct of mankind. It is so largely intellectual that it leaves man's highest nature unsatisfied and almost untouched; therefore, it is imperative in the present intellectual and material awakening that the more subtle forces which will profoundly affect the soul of the race should be fostered side by side with these others.

At the same time care must be taken to avoid repetition of the unwarranted conflict between science and religion. Our instruction must be such that these two departments are not regarded as antagonistic, but as supplementary, not only in affecting daily life and conduct, but supplementary, also, as revelations of the character and purposes of God. We must, also, avoid the tendency to impose a system which is the outgrowth of western civilization without due regard for the oriental character and mode of thinking.

Much of the prejudice against missionary work has doubtless been due to its connection in many instances with an irrational dogmatism which happily has been and is being largely eliminated by the broadening of education. Missionary education should be, and in several institutions already is, characterized by the broadest possible horizon, adapted to China's present situation, yet with distinct reference to her future welfare and that of the world as influenced by

her; with the utmost care it looks to the moral development of the people, for such faults as the Chinese have can be eradicated by education in the broadest sense of that term. Both the strength and the weakness of China emphasize the necessity of bringing to bear upon the nation those influences which will align her on the side working for the higher development of the whole human race.

The wide diffusion of Christianity in its best form will not suddenly introduce the millennium into China, for all intermediate stages must be passed through before the goal is reached, but it will for the first time in Chinese history realize the motto of the ancient Tang repeated so impressively in more recent days by Chang Chi Tung: "Regenerate, regenerate the people." Thus alone can the country be adapted to the altered conditions brought about by the impact of western thought. Christianity has been tried as yet upon a small scale only, but has already brought forth fruit after its kind. When it shall have been thoroughly tested and have had opportunity to develop its potentialities in a manner specially adapted to the situation, it will give to China intellectually, morally, and spiritually the long-sought for elixir of a new life.

CONTRADICTORY CHARACTERISTICS.

In reviewing the faults and virtues of this remarkable people, one realizes that they possess or exhibit strangely contradictory characteristics, at least contradictory as we of the west view them, though I am mindful that often the oriental, especially the Chinese, sees no contradiction between ideas or ideals which we may consider mutually exclusive.

Ingenious in small things, they rarely carry their inventions in any direction to its natural sequel. Responsible for some of the best of early achievements in applied arts, they have made no great inventions in recent centuries.

As a nation they present the greatest example of persistence, while as individuals they are often singularly lacking in this quality. They show great economy in use of materials, but are very wasteful of time and energy. They build but do not repair.

Kind-hearted and in general considerate of animals in deference to Buddhistic teachings, allowing even snakes to live, they let men die of starvation by the roadside and seldom make heroic efforts to save endangered lives: in hard times the lower classes even sell their children to be slaves.

So drilled in usage of the past, they continue in old ways even when the reason for that way has long since ceased. So conscious of their obligation to the past, they are comparatively indifferent to the claims of the community in which they themselves are living and have little idea of passing on to the future with interest what

they have received from the past. They spend vast sums in reverence to ancestors, but destroy the forests that would safeguard their own descendants. They practice early marriage and polygamy for the sake of progeny, and yet impoverish their posterity. The nation which of all now extant has shown the greatest power of persistence, has nevertheless made the least provision for its own future.

This outstanding result of ancestor worship and the all-pervading practice of "squeeze" are the two paramount evils of Chinese life. Serious as these faults are and slow in their removal, they can be overcome by a type of education that will develop the scientific spirit, higher moral ideas, especially a regard for the community and the future, and greater strength of character; in short, the highest type of modern education which while training the student for effective service will also spiritualize his motives in life. This is, indeed, the high aim many of our American missionary colleges are fulfilling to the extent of their ability.

A. GOVERNMENT INSTITUTE OF TECHNOLOGY, SHANGHAI.

B. MODERN NORMAL SCHOOL ON SITE OF ANCIENT EXAMINATION HALLS, CANTON.

A. Students of college grade.

B. Girls of the secondary school.

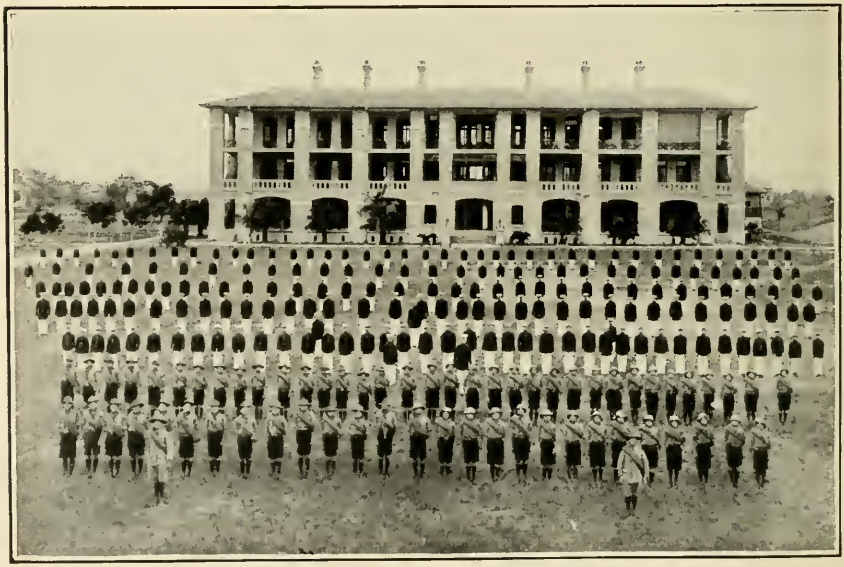
CANTON CHRISTIAN COLLEGE.

A. Panorama from the river.

B. Grant Hall.

CANTON CHRISTIAN COLLEGE.

A. Class in animal husbandry.



B. Secondary school students before Martin Hall.

CANTON CHRISTIAN COLLEGE.

V. MISSION SCHOOLS.

THE OPPORTUNITY TO SERVE CHINA.

Although the first modern schools in China were begun under mission auspices and some of the best educational institutions to-day are under mission auspices, the education of the Chinese is not the problem of the mission boards; it is China's own problem. But in view of the immensity of the Government's task, the missions have an unprecedented opportunity to render a real service to China. In view of the disturbed political conditions ever since the revolution of 1911, the governmental effort at providing general education has, with a few exceptions, been very ineffective. The mission schools have even a greater opportunity to-day to help mold the educational system of China than was even thought possible in 1911 when such a new spurt was taken under the First Republic in educational matters, the most marked since the eventful day in 1905 when a stroke of the Imperial pen abolished the old system of literary examinations and called for the establishment of modern schools throughout the land.

As already indicated, the great handicaps in the Government's educational work are the lack of funds, the lack of qualified teachers, and the lack of honest and progressive administrators. An adequate appreciation of the function of education and the precise adjustment of the type attempted to the needs of the community and of the nation are also still to be achieved. It is for these reasons that mission institutions have had and are still to have a very great share in shaping the course of China's educational development.

After several decades of diffused and experimental service, which, however, has been of great value and was even a necessary preliminary, the Protestant missions are aiming to furnish China with a thoroughly standardized and coordinated system of Christian education, emphasizing quality rather than quantity, so as to provide educated leadership in the various professions and vocations, and an intelligent and reasonably educated church membership and trustworthy citizenship who will constructively influence their community life. This is serving as a challenge and a corrective to the national schools of similar grade.

PROGRESS OF MISSIONARY OCCUPATION.

Missionary occupation of China may be regarded as covering six stages: From 1807 to 1860 it was confined to the coast, mostly the southern half of the coast, the beginning having been made at Canton.

From 1861 to 1877 the eastern third of the country was more or less generally covered. From 1878 to 1890 the missionaries were pretty generally distributed, except in Hunan, Kweichow, and Kwangsi. During 1871 to 1900 the occupation became quite general, though, of course, with considerable variations. From 1901 to 1910 the increase was most marked in the middle third of the country divided longitudinally. From 1911 to 1917 there has been a movement of concentration to fewer centers fairly evenly distributed, except in the far corners northwest and southwest.[1]

STATISTICS OF MISSION SCHOOLS.

Out of a total of 6,000 Protestant missionaries, some 4,800 are Americans, and of these some 1,500 are engaged in educational work, which includes two-thirds of all the educational work at present under way in China under Protestant auspices. Unfortunately the statistics of Catholic work are not available, though there are many French, German, and Belgian Catholic missions, and a few American priests who work under one or the other of these missions. Generally speaking, the Catholic missions are not so ambitious from a purely educational point of view, though they are fairly strong on industrial work connected with the production of church fixtures and furnishings, and some of the best scientific work ever done in China, both in former and in recent years, has been under French Catholic auspices.

Protestant missions in China, besides their medical work, conducted in 1917–18 115 kindergartens; 5,276 lower elementary schools; 575 higher elementary; 233 middle or high schools; 28 colleges; 156 normal and training schools; 31 theological schools; 40 industrial schools, and 49 orphanages—a total of 1,227 institutions, with a teaching force of 1,471 foreigners (831 of them women) and 9,595 Chinese (2,783 of them women), and a total enrollment of 170,659 students (54,461 of them girls) distributed as follows: 3,196 kindergarten; 133,826 in lower elementary; 19,605 in higher elementary; 12,533 in middle school; 1,499 in college; 1,409 in industrial; 985 theological; and 1,544 in orphanages.

The proportion of female students is highest in the elementary grades where they are about one to two, and in the normal school where they outnumber the males nearly two to one. But in middle

[1] As a force working for the modernization of China, though not always in a manner most to be desired, we should mention also the many foreign merchants and consular and diplomatic officers, who, however, are practically confined to the 50-odd treaty ports. There are probably 150,000 Japanese, or more than all the other foreigners taken together. Next are the Russians, who number perhaps 50,000, whereas 10,000 will probably cover the British (not counting Hongkong), and 8,000 will cover the Americans, who have greatly increased in recent years, while of French and of Germans (until the war unsettled everything) there would likely be some 4,000 each, with perhaps less than 5,000 of other foreign nationalities combined.

schools the ratio is 1 girl to 5 boys, while in actual college grades the ratio is 1 to 22. There is as yet no institution under Government auspices where a girl can get instruction of collegiate grade, and only three, probably two, of really collegiate grade under mission auspices.

While complete data are not available, it seems likely that these ratios between female and male students would probably hold good, roughly speaking, for Government schools as well as missionary.

THE SYSTEM OF CHRISTIAN EDUCATION.

The system of Christian education, ranging from kindergarten to university, is widely spread throughout the country, and culminates in the strategic centers to be mentioned presently. There are nine local Christian educational associations covering from one to three provinces each, and in turn affiliated with the Christian Educational Association of China with headquarters in Shanghai.

A relatively small portion of the population of China is found in the cities. Nine-tenths of the population live in the country or in relatively small aggregates, some in isolated homes, but generally clustered in hamlets and villages. These afford a smaller working unit than is usual in many other countries, and are the natural basis upon which to start in the education of the common people of China, whereas the training of the leaders for that more general educational conquest can best be done near the largest cities.

Although the great bulk of missionary education is still in the elementary and secondary grades, in more recent time a number of schools of college grade have been developed, nine even assuming the title of university, though the validity of such a claim may be questioned.

The strategic points at which mission colleges are located and Government institutions also are concentrated are as follows:

From south to north through the eastern provinces, Canton, Foochow, Shanghai, and the neighboring cities of Hangchow, Soochow, and Nanking (all of which are connected with Shanghai by rail), Tsinan, Tientsin, and Peking. Up the Yangtsze 650 miles is the educational center of Wuchang and Hankow, which is the Chicago and Pittsburgh of China combined, being the intersection of the main trunk lines of traffic, and is the center of a great coal and iron region. South from Hankow is situated Changsha, the capital of Hunan Province, the last to be open to foreign influence, and here Yale maintains an educational and medical mission. In the far west at Chengtu, the capital of the great province of Szechwan, there is the beginning of a college which has one of the brightest prospects in all China.

Of 26 colleges, in some of which the bulk of the work is still of high-school grade, 10 are maintained as "union" institutions by several denominational boards cooperating, while two are strictly nonsectarian though Christian. These are Yali or the College of Yale at Changsha, the capital of the last province to be opened to foreigners, and Canton Christian College, which may in a way be regarded as an intercollegiate mission, since eight American institutions maintain each a representative on the faculty of this school in distant China as a part of the foreign work of their Student Christian Association or other special organization.[1] Curiously enough, both of these institutions have had a remarkable degree of financial support from the Chinese; in the case of Yali this has taken the form of a definite cooperative basis, while at Canton money, both for building and for running expenses, has been turned over unconditionally to the trustees of the college incorporated in New York.

Since the most striking features of the recent development of modern education in China under Christian auspices are nearly all well illustrated in the case of Canton Christian College, and are naturally better known to us in detail, we shall present a brief account of this institution as an example.

[1] These are: University of Pennsylvania, Pennsylvania State College, Teachers College of Columbia University, Vassar College, Williams College, University of Pittsburgh, Kansas State Agricultural College, and Washington and Lee University.

APPENDIX A.

CANTON CHRISTIAN COLLEGE.

The history of the Canton Christian College falls naturally into three periods: Inception, 1884–1903; organization, 1904–1918; and realization, 1919 and beyond.

The embryonic stage began with the conception in 1884 on the part of two far-sighted members of the American Presbyterian Mission at Canton (Rev. B. C. Henry and Dr. A. P. Happer), that there should be established under Christian auspices a college of high standard to serve South China. In 1885, Dr. Happer raised in America an initial fund of approximately $100,000, a very large sum in those days for higher education in China.

On his return to Canton Dr. Happer received a remarkable petition signed by no less than 400 Chinese, including prominent officials, scholars, gentry, and merchants of Kwangtung Province, urging that the project be carried forward as rapidly as possible, so as to satisfy a long-felt want.

The trustees were incorporated as of "The Christian College in China," under the regents of the University of the State of New York in 1893 and for a time owned the property and carried on the boys' school of the Presbyterian Mission at Canton, pending decision as to the permanent location of the proposed higher institution. In response to a petition in 1898 signed by 54 pastors, licentiates, teachers, and elders of all denominations in and near Canton urging that the college be maintained in Canton to serve the church as a whole, the trustees finally determined to secure a permanent site in the vicinity of this ancient "City of Rams," the largest non-Christian city in the world. In 1899 a separate school was started on a wholly undenominational basis which was moved to Macao during the Boxer disturbances and remained there four years while the small rice fields, bamboo groves, ponds, and innumerable grave plots near Canton on which the college could be built, were gradually acquired.

The period of organization began with the occupation in 1904 of the present site on the north shore of the island of Honam, 2½ miles east of the center of Canton City, the metropolis of Kwangtung Province which is 90 miles from Hongkong, one of the great ports of the world. In anticipation of this fixing of site, the corporate name had been amended in 1903 to be "Canton Christian College."

Perhaps the most striking feature of the institution since 1904 has been the rapidity of its growth. The campus has increased from 20 acres to over 130; the two long wooden bungalows, which provided temporary shelter for the whole institution in the first years, are now supplemented not only by a score of other temporary buildings, many of which are of brick, but by 27 permanent fire-resisting and ant-proof buildings, with 3 more in course of construction today. The student body has grown from 60 to 600 and the staff from 6 Americans and 6 Chinese to 31 Americans, 2 British, and 51 Chinese (not counting wives who do not teach). The budget of current expenses has risen from $20,000 Hongkong currency to over $200,000 annually. Only one element

has failed to grow, the all-important item of endowment; there was none in 1904 and there is practically none in 1919.

Half of the budget for current expenses is met by student fees and rentals; the remainder must be secured each year from generous individuals or supporting groups, Chinese or American. The investment at the college to date is about as follows: Grounds $80,000, buildings $350,000, equipment $35,000, or a total of $465,000 United States currency. The rapid growth and this substantial investment make even more urgent the securing of an adequate endowment

A most encouraging feature of this period has been the cooperation of the Chinese. Of the 30 permanent buildings, 10 have been given by Chinese, while during the past seven years as much money for all purposes, current expenses, as well as buildings, has been received from Chinese sources (including tuition fees) as from America. Twice since the Great War unbalanced everything and American contributions to the college have fallen to half their former rate, the students have voluntarily and enthusiastically conducted local campaigns and in 10 days' time collected individual subscriptions of small sums, which totaled $17,000 Hongkong currency in 1915, and $22,000 in 1918, to be applied to current expenses. Without these student campaigns the institution could not have met its obligations. But such efforts can not be relied upon too often, and from American friends more adequate help should come in behalf of students who thus have proved their worth. When in the early summer of 1918 a chapter of the American Red Cross was formed in Canton, every student and every Chinese instructor in the Canton Christian College became a paying member of the American Red Cross.

Besides organizations of former students in Canton, Hongkong, Saigon, and Peking, the Canton Christian College Club of North America includes some 75 alert members. These groups have done much in securing friends for the college as well as by contributions in money.

Chapters of a general association of Chinese friends and supporters have been established in China and in 36 cities of North America, including such centers as San Francisco, Chicago, Philadelphia, New York, Boston, Montreal, Toronto, Winnipeg, and Vancouver. In the year 1916–17 the membership fees of this Chinese association in North America amounted to $6,400, and were applied to the current expenses of the college.

A third noteworthy characteristic of this period of organization is that the institution was practically forced to become coeducational, as it now is in all grades. While continuing to have girls as well as boys in the elementary school and to keep the secondary school open for girls who prefer this type of institution, it is now proposed to refrain from developing a separate secondary school for girls, and to back the True Light Middle School for girls, already fairly well developed under the auspices of the American Presbyterian Mission, on the condition that they offer adequate preparation for entrance to our College of Arts and Sciences, and direct girls desiring to pursue collegiate studies to the Canton Christian College. As the number of women increases, courses especially adapted to their needs will be developed and in due course a separate college for women established, although for some time the numbers will be far too small to warrant such a step. At present there are about 40 girl students in the whole institution, of whom only one is in the college proper, though in previous years six other girls have been regular students in this department. Experience in the secondary grades has shown that the girls are very close competitors of the boys in point of scholarship.

In accordance with Dr. Happer's original intention and for the reasons set forth in the earlier section of this article on the language problem, English

is the medium of instruction for all modern subjects beyond the second year of the secondary school. At the same time a high standard in Chinese subjects is maintained and all students are required to study Mandarin, which is also employed as the medium of instruction for some of the courses, such as the geography and the history of China.

Three elements of modern education are so entirely novel in comparison with the old-style education in China and are of such recognized importance to-day that a brief mention will suffice to indicate the special emphasis they receive in Canton Christian College, as indeed in all progressive schools in China. The natural sciences, manual training, and athletics.

We have already spoken of the relation of the courses in the various departments of natural science to China's need for leaders in industrial and hygienic reformation. The details of such work at Canton Christian College are set forth in a later section of this article.

In endeavoring to introduce and develop interest in manual training, it has been necessary to proceed wisely, in view of the traditional antipathy toward any sort of manual toil on the part of the scholar class. But that the movement has been crowned with abundant success is evident from the spirit exhibited by our students in digging a large outdoor swimming pool two years ago and grading their own athletic field in the past year, both tremendous undertakings involving daily participation in dirty work which covered more than a year in each case. Rich and poor, girls as well as boys, old-style teachers as well as returned students from America, all joined in the work. This really remarkable result was not suddenly attained but was the culmination of a sequence of graded steps calculated to overcome traditional prejudice. And in all of this, cooperation or example on the part of the American instructors has been a leading factor; indeed, in the digging of the pool some of the American women of the campus took active part.

Outdoor games were, of course, introduced at the very inauguration of the institution and naturally the long finger nails and the long gown were not long in coming off when once the wearer actively participated in a game of association football. That was the first step; other athletic forms were readily developed and the total effect of such in opening the mind as well as the pores has been of untold value.

In the line of manual training more properly speaking, advantage was taken of the traditional reverence for the written and printed "character" and elementary practice in typesetting and printing was introduced as the thin edge of the wedge, which in due course was followed by required work in carpentry, basket and rattan work, and then later in gardening—all this, of course, in the secondary school. While in the college proper nearly the whole time assigned to science courses is spent in laboratory and field work.

Somewhat related to the same principle underlying this athletic and manual work is that involved in military drill. Not only is the discipline of the secondary school conducted on a miltiary basis but milltary as well as physical drill is required. In the College of Arts and Sciences there is no required military drill, but a vigorous volunteer corps has been formed entirely on the students' own initiative.

As already indicated the college is nondenominational. The doors are open to all students qualified by character and scholastic attainment to enter, irrespective of religious belief. Great care is taken to make the atmosphere of the campus wholesome and tolerant. Religious instruction is an integral part of the curriculum in all grades and weekly preaching services as well as daily chapel exercises are held under the auspices of the institution, but there is no organized church at the college. Though at first regarded by many denominational mis-

sionaries as a very doubtful experiment the Canton Christian College while maintaining high educational standards and observing a strictly nonsectarian attitude has nevertheless fully justified its existence even as an evangelizing agency, for every year several scores of students make public profession of Christian faith under circumstances that indicate their grasp of the fundamentals of a tolerant and effective Christianity. Though very few are Christians when they enter or come from Christian homes, 90 per cent of all students who go out from the college after two or more years attendance are church members. In this connection it is noteworthy that when information about the different churches is publicly given by Chinese Christian teachers, denominational differences are barely mentioned, while in every case the need for workers is emphasized and the weakest church makes the strongest appeal to the new converts.

The college offers a standing invitation to any denominational board having work in Kwangtung or Kwangsi to participate in the work of higher education by contributing a man to the staff, and in consequence to have the privilege of nominating a member of the board of trustees. The London Missionary Society has already entered into this arrangement, and doubtless their example will in due course be followed by others, since the college aims to serve them all as the apex of the system of Christian education in South China.

While this nondenominational basis receives indorsement from many Americans as well as from the Chinese generally, financial support from organized denominational sources is thereby reduced, and the college has been obliged to build up also an American constituency of its own corresponding to the general association of Chinese supporters, though without any fees or dues. Thus far this general association of American friends of the college has been actively promoted chiefly by a central committee of women in and about New York City. There is still great need to secure a larger body of American friends who will support the college on a nonsectarian basis. (Reference has already been made to support from American colleges.)

Three problems of organization, which have been substantially solved, are perhaps worthy of special note: The architectural general plan, the administrative function, and the scholastic divisions.

THE ARCHITECTURAL PROBLEM.

In designing the grounds and the disposition of the college buildings upon them the inevitable expansion into a great university has been foreseen and considered from the very first in a large, orderly, and comprehensive plan, according to which all of the buildings are and will be successively fitted in their appropriate groups as they are erected. However, this scheme has not been taken as absolutely rigid, but has always been subject to restudy for a given area whenever a new group of buildings has been inaugurated. For adequate control of such an elastic scheme as well as for the design of the individual buildings the college maintains a resident architect. It has also organized its own building department, and thus greatly reduced the cost which rarely exceeds half, and in some cases is only a third, of the cost of similar buildings in America.

The purchase of a considerable stretch of waterfront has prevented too close encroachment by manufacturing plants and provided rich bottom lands for experiments in flooded fields cultivation and dikes that do extra duty as lichee orchards. Since communication with the city is had by means of a motor launch and small native craft, a granite wall and pier are provided as an outer landing harbor, from which a canal runs in a short distance to form an inner harbor for protection of the boats from typhoons and also to give access to the

terminus of a narrow-gauge railway by which building materials, fuel, etc., are transported to various parts of the campus. To one side of this canal, where it makes a great bend, lies the swimming pool, designed to be filled and emptied by tidal action, assisted by a small centrifugal pump. Further in and somewhat more elevated will be the filter beds for the permanent water-supply system of the campus, at present only partially developed.

An open esplanade 200 feet wide leads from the river a quarter of a mile southward to the site of the future chapel. South of this is the impressive Students' Christian Association Building, which seats over 800, and yet is often crowded. The summit of the highest hill on the east, some 70 feet above the river, is reserved for the library, from which a wide cross esplanade extends westward as the axis of the main academic group. On the northern or riverward brow of this hill will some day stand a hall of international good will as a memorial to John Hay and other American friends of China. Disposed on either side of the great cross formed by these two esplanades are projected groups of buildings corresponding to the scholastic divisions of the institution. To the east and south of this more formal development lies an extensive residence park for the faculty, Chinese and American. A model village of modest cottages for subordinate employees has already been begun and, of course, athletic fields and gardens form other elements in the ground plan. There is also a fully equipped meteorological station so placed on the campus that students and visitors may by inspection, without seriously interfering with the actual securing of reliable records, form some idea of the character and value of such work.

Assuming the value to the Chinese students and people of an environment of scholarly and dignified architecture, in contrast with the prevalent nondescript adaptions of ill-assorted European styles, it is the aim of the designers to give the buildings individual distinction while subordnating them to the general unity of the scheme.

The type of permanent building adopted combines modern construction with a Chinese aspect, chiefly expressed in the roofs which are of green glazed tile and ornamented and curved according to the best native style. The floors are reinforced concrete, the walls of red brick of a pleasing soft tone. All the buildings are equipped with modern plumbing. It is distinctly the aim of the college so to build as to exemplify structurally and artistically the best combination of Western and Chinese architecture, and thus as well as in other ways to be of help in this period of change in China.

THE ADMINISTRATIVE PROBLEM.

The work of the institution is carried on under the direction of a council composed of the president, vice-president for Chinese affairs, bursar, and the head of each constituent school, except the elementary school, whose interests are represented in the council by the principal of the secondary school. When the faculty of any constituent school exceeds eight professors and associate professors it has an additional representative in the council.

The council is responsible for the drawing up of the budget for approval by the trustees, and is charged with all affairs that concern more than one school and with the inauguration or elimination of departments or schools. The plan of organization is that of an American university with lower feeding schools. All academic questions are dealt with directly by the faculty of each school, the head of each school having veto power over the action of his faculty.

The bursar performs also the duties of a general business manager and superintendent of buildings and grounds. Special officers of administration besides

the resident architect are the resident engineer, the college physician, and the supervisor of religious work.

Since the trustees are in New York and the college in Canton, there is an unavoidable element in the major problems of administration, unknown in an institution in America, which may well be called the "Ten Thousand Mile Difficulty." This could only be solved perfectly by a president able to perform the miracle of being in two places at the same time, and is only moderately overcome by frequent visits from one side of the world to the other. Another line of solution of this difficulty has been steadily to increase the responsibilities and powers of the council on the field by delegation to it of many functions generally performed in more or less detail by the board of trustees for a college in America.

THE SCHOLASTIC DIVISIONS.

The scholastic work of the institution is divided into three main schools of five years each: Elementary, secondary, and collegiate. Some 1,100 students have entered the institution since 1899.

The elementary school is maintained partly as a model and observational school in connection with the Teachers' College which is being developed as one of the main divisions of collegiate grade. This elementary school is housed on the "cottage system;" that is, each class has its own cottage, which includes the class room, a dining room, pantry and servants' room on the ground floor, and on the second floor bedrooms and bathrooms for 30 students and two teachers, so arranged that the teachers, to reach their individual rooms must traverse the large bedroom of the students and to reach their private bath must traverse the bathroom of the students, thus enforcing at least a modicum of all desirable supervision.

A central building of the elementary group provides office space, assembly hall, a demonstration class and playroom, and a kitchen (in the third story), from which food is distributed to the individual cottages. This school is taught entirely by Chinese instructors. The principal is assisted by two other men and seven women with normal school training.

At present only four of the five cottages have been provided and so the enrollment is 120, whereas the full complement is intended to be 150, which will be the permanent limit. The cottages have each cost but $3,000 (United States currency).

The secondary school as at present organized covers the work of the highest two grammar grades and the first three years of the middle school. The enrollment in 1917–18 was 330, making it by far the largest administrative division, occupying three large dormitories. These dormitories have all been provided by Chinese donors, at an average cost of about $33,000 (Hongkong currency) for a fireproof building housing some hundred students (four in a room), and three to six unmarried instructors.

The present faculty of the secondary school includes 10 American and 25 Chinese teachers, 10 of the latter being graduates of American colleges. The curriculum is carefully planned to meet the practical needs of Chinese youth for active life and citizenship, the ideal of service being constantly set before them. Outdoor work of many sorts is emphasized, including observation trips to factories and places of interest and camping expeditions in association with teachers. Class sections are limited to 30 students and a system of class advisors is effectively maintained. Student organizations are encouraged.

The annual fees in the secondary school are about $300, and in the college about $250 (Hongkong currency), including room rent and table board as well as tuition.

An employment office helps students to find work on the compound for partial self-support, and there are a few endowed scholarships which cover tuition only. Boys entirely dependent upon a Christian pastor or other Christian worker are given free tuition. Tuition has recently been increased 50 per cent throughout the institution without affecting the enrollment. But it has, of course, been necessary as far as possible to grant scholarship aid to all students who urgently need it, giving due weight to diligence and nonscholastic activities and character as well as scholarship. All such aid is treated as a loan repayable in part or in whole by fulfilling certain conditions of service after leaving school.

The educational work of the missions in Kwangtung, especially of those which center at Canton, has for generations lagged behind their distinctly evangelistic work, and the number of boys' schools under Christian control is still lamentably small though the recent progress made in two or three of these has been very marked. These schools have hitherto been able to attract very few students from the upper middle class, and as a consequence those who have come have been financially unable to go into higher schools. Due to these circumstances, as well as to help in raising standards, the Canton Christian College has been compelled to establish a secondary school as a foundation of its own upon which to base college work. Meantime more than a hundred of its graduates have entered American universities and not a few have gone to the best technical schools in North China. As the prospect of larger numbers of students coming from other mission schools is growing brighter, it is now possible to count upon a sufficient number of applicants from our own secondary school to warrant emphasizing from now on the adequate development of the college proper and the bending of every effort in the direction of increasing its staff and equipment. Though for many years it will be necessary to maintain and enlarge the secondary school, say, to a limit of 1,000 pupils, the institution is already beginning to fulfill its true function in South China, namely, to offer courses of recognized college grade which will prepare men and women to be high minded and efficient leaders of their people without going abroad for study.

THE PERIOD OF REALIZATION.

Though for purposes of statistical statement we have given 1919 as the beginning of the period of realization as contrasted with the period of organization, this last stage really began in 1914 when the class, which in June, 1918, received the first degrees to be granted by Canton Christian College, entered the courses of study organized under the faculty of the College of Arts and Sciences.

The growth of the student body in the College of Arts and Sciences is shown by the enrollment statistics: 1912–13, 16; 1913–14, 27; 1914–15, 37; 1915–16, 43; 1916–17, 52; 1917–18, 103; 1918–19, 121.

These figures include the subfreshman class which though corresponding to the fourth year of the middle school is for administrative purposes placed under the faculty of the college proper. This is done not only to give greater momentum to that department during the early stages of development, but also to allow students in this year to elect courses in education, agriculture, and business, so that if unable to remain for the full college course, they may by the end of the freshman year be entitled to receive a junior certificate.

The present teaching staff of the College of Arts and Sciences totals 20, of whom 14 are of the rank of professor or associate professor. The B. A. degree is granted on the authority of the regents of the University of the State of New York at the completion of the four-year course in one of the fol-

lowing groups: General arts, natural science, social science, or agriculture. For each group certain essential subjects are required in addition to which a choice may be made among a limited number of others. Chinese composition and translation and eight credits in courses in religion are prescribed for all students. For graduation one must obtain 140 credits, each representing one semester-hour of recitation.

The arts course aims to fit men for teaching, especially English, and to lay a broad foundation for subsequent professional studies for the ministry, journalism, law, etc. Chinese and English language and literature and education are stressed, but it is required that even those taking this group shall become familiar with one of the sciences, chemistry, physics or biology.

The natural-science group puts the emphasis upon a more extended study of at least two of these sciences and upon mathematics, that graduates may be prepared to teach these subjects or to go on to specialized studies in medicine, engineering, etc.

The social-science group approaches the arts group, but requires more economics, sociology, and history with options in business and in government, and courses of obvious practical usefulness, which furnish an excellent foundation for men who will have to carry large business responsibilities, as well as those who will lead in social, economic, and political reform.

Agriculture is at present the most specialized collegiate course, and in view of the great importance of such work, as indicated in an earlier section of this article, it is very encouraging to note how popular the courses in agriculture are, practicaly half of the present student body of the college being in this department.

The special staff in agriculture includes, besides the head of the biological department as entomologist, two Americans experienced in horticulture and animal husbandry, one Chinese educated in America as agronomist, and several experienced Chinese agriculturalists secured locally. Twenty-five acres are under special cultivation, including rice fields, foreign and Chinese vegetable gardens, fruit-tree nurseries, etc. Among the special projects at present under way and of great importance to the future agricultural development of South China may be mentioned hog breeding; development of dairy herd; improvement of rice culture by selection; a study of the diseases of the lychee and also of the citrus fruits, of great importance to California and Florida as well as China; improvement of sericulture through the production of disease-free silkworms; a herbarium which exchanges with museums throughout the world. In all this work close cooperation has been established with the United States Department of Agriculture, the Philippine Bureau of Science, the International Committee for the Improvement of Sericulture, and the Kwangtung Experiment Station.

A medical school and a teachers' college are also being developed and a school of engineering is projected.

EARLIER EMPHASIS ON HIGH SCHOOL A NECESSARY PRELIMINARY.

The peculiar problem just now is really to "turn the corner" in the development of a high-grade college of arts and sciences as the first step toward the establishment of the future Canton Christian University, which will include these various schools.

When 20 years ago the effort to establish a full-fledged college was begun, it at once became evident that the development of a high-grade secondary school had first to be accomplished, and when the task was fully under way it became necessary to develop grammar grades.

The next lower stage was undertaken as the result of a bit of "spontaneous combustion" on the part of the upper classmen in the middle school, who in connection with their study of educational problems became so aroused to the need of more and better elementary schools, that they induced the Student Christian Association to undertake the development of an elementary school, which for three years they manned and financed completely, the college merely granting use of available space in one of the earliest temporary buildings. So rapidly did this school prove its worth that Chinese friends readily gave it the first two permanent cottages and a central hall, and the undertaking was transferred to the official control and sponsorship of the college as a part of its scheme for a complete educational system.

Freshmen classes and even sophomore classes were frequently conducted after 1903, though each year so many students, on leaving the middle school, went to America under Government aid, that it was always a question on opening a new academic year whether to devote available forces to carrying a handful of men through a year of the college course or with the same resources take in and adequately care for 40 or 80 students in the lower years of the high school.

The decision was almost always in favor of the latter course, for, besides the financial advantage, the development of a sufficient momentum in the high school was an essential preliminary to the establishing of a college. This momentum was also effectively increased by the maneuver of cutting the freshmen class off from the college course and adding it to the top of the middle school, making the latter a very substantial five-year course. After a decade of emphasis on the middle school it became possible to organize substantial courses of real collegiate grade, and students have been attracted by the prospect of obtaining a degree of recognized standard without the greater expense of studying abroad. In 1916 the fifth year of the middle school was returned to the control of the faculty of arts and sciences, and the fourth year was allowed to follow it as the so-called "subfreshman" year, already explained.

THE COLLEGE NOW FULLY UNDER WAY.

The task of developing a true college in close juxtaposition to an overshadowing high school is extremely difficult; especially when as yet sufficient dormitories are not available to permit a complete separation in the housing of college students away from high-school students, and no recitation hall or laboratory building is available for the exclusive use of college classes. Under these circumstances the results already achieved as regards both standards and scholarship and college spirit are most remarkable and warrant the claim that given the needed facilities, the development in the next decade will surpass all limits, for there is no possibility of overstating the desire of the youth of China for modern education of a high grade even under foreign and even Christian auspices. At the Canton Christian College even the attics of the dormitories are filled with students (and that in a tropical climate), and mat sheds have been erected to care for the overflow of students, fully qualified by character and scholastic attainment to enter, who would not be denied. Some idea of this pressure may be had from the fact that whereas in 1904 there were but 6 students of collegiate grade, in 1917 there were more than 60 in the subfreshman class alone, and in 1919 there are more students in the freshman class than in all four college grades a year and a half ago. In 1917–18 there were 10 students in college biology, whereas in 1918–19 there are 70 in the same class.

The grade of scholarship maintained is fully attested by the advanced standing granted our students who withdraw to enter universities in America, and by the progress they subsequently make.

Moreover, the opportunity for substantial and satisfying service along educational lines, combined as it is with other opportunities for research in almost untouched fields such as economics, government, sociology, ethnology, geology, and biology and in the applications of all the sciences to the agricultural and industrial development of a country whose natural wealth is as yet even unsurveyed, does not fail to attract men of high grade to membership on the faculty of the college, even on the reduced financial basis which unfortunately characterizes missionary enterprises.

It is of course essential to provide adequate facilities for effective work. Substantial results have already been obtained, even though the science laboratories are conducted in makeshift and overcrowded quarters; and a very good start has been made on a college library, which at present contains some 8,000 English and 6,000 Chinese volumes, including some very valuable journals and special publications.

SOME IMMEDIATE NEEDS.

Aside from the ever-present need of endowment, four immediate needs are intimately connected with the problem of providing the College of Arts and Sciences with a distinct entity of its own. These are a science laboratory, an agricultural building, student dormitories, and faculty residences. A fifth need, also of immediate importance in the development of the institution as a whole, is a power house, because on a campus of 130 acres, containing some 50 buildings, which house all the activities of over 1,000 people, the only power plant thus far afforded is a three horsepower oil engine pumping the water supply. No electric lights or other applications of power are yet available, except in the physics laboratory for purely experimental purposes. Yet even under these limitations this "man factory," as the Chinese call it, is a going concern; abundant high-grade "raw material" is available, a qualified staff is "on the job," the work is fully organized, the "plant" is being used to the utmost advantage, and it but remains to put more capital at the disposal of its directors in order that it may indeed keep pace with its ever-increasing opportunity to supply precisely the product which China so greatly needs for the period of reconstruction which she faces.

APPENDIX B.

PEKING UNION MEDICAL COLLEGE.

Perhaps the best illustration of what the newer medical education of China is destined to be is found in the Peking Union Medical College. This institution is itself the outgrowth of the Union Medical College which was founded in 1906 by the six English and American Missionary Boards operating in China. The time of foundation was significant, following as it did upon the disorganization of missionary work which resulted from the Boxer uprising. In 1914 the Rockefeller Foundation sent the China Medical Commission "to inquire into the condition of medical education, hospitals, and public health in China." Upon the basis of its report the corporate fusion of the two bodies was effected, and possession of the property of the old Medical College was acquired. By the terms of transfer a board of trustees of 13 members was appointed, apportioned among the founding organizations. Among these are to be noted the following men of international repute: John R. Mott, chairman; George E. Vincent, chairman of the executive committee; Wallace Buttrick, Wickliffe Rose, William H. Welch, and Simon Flexner.

Early in 1916 a provisional charter was secured from the regents of the University of the State of New York. In October, 1918, the Pre-Medical School, conducted as a feeder for the college, opened with an encouraging number of native Chinese youth enrolled, each of whom was a graduate of a modern college or high school. The first term of the college proper will open in October, 1919, with requirements for admission conforming to those laid down by the New York State Board of Regents, the Association of American Medical Colleges, and the Chinese Ministry of Education. Under special circumstances, however, conditioned students are admitted. Women students are admitted on the same footing as men; and special opportunities are offered them for training courses in modern nursing, to which only graduates from a modern middle school will be admitted.

English will for the present be the language of instruction; but, as the progress of medical education in China will ultimately lead to the necessity of instruction in Chinese, special courses in Chinese related to scientific and medical needs will be required from the beginning.

APPENDIX C.

MISSIONARY EDUCATION IN CHINA.

Women's colleges in China under mission auspices:

North China Union Women's College, Miss Luella Miner, established in 1905; 50 students in 1917.

Ginling College, Nanking, Mrs. Lawrence Thurston, established in 1915; 50 students in 1917.

Women and girls in all schools:

In 1876	1,307	In 1917	57,256
In 1907	9,929		

ROMAN CATHOLIC MISSIONS IN CHINA.

Statistics of the educational work of the Roman Catholic missions are not available.

EDUCATIONAL WORK OF THE PROTESTANT MISSIONS, 1917.

Institutions and enrollment in 1917.

	Kindergartens.	Lower elementary.	Higher elementary.	Middle.	Collegiate.	Normal and training.	Theological.	Industrial.	Medical.	Nurse.
Schools	755	5,329	573	228	18	119	30	32	21	65
Teachers	.....	6,609	1,798	.....	.....	.....	.....	.....	.....	.....
Enrollment:										
Male	.....	86,941	13,434	9,201	758	816	610	488	389	.....
Female	.....	25,167	6,732	2,679	14	1,872	.....	519	63	.....
Total	349	138,943	20,832	11,892	772	3,125	.....	1,375	452	715

The totals do not agree with sum of entries of separate sexes for the reason that some schools in their reports have failed to separate the sexes.

Besides the institutions listed above, there are maintained 38 orphanages with 1,158 inmates.

Chinese contributions to educational work under the Protestant missions for 1917 amounted to $1,231,149 Chinese currency.

APPENDIX D.

CHINA'S EDUCATIONAL PROGRESS.[1]

By Hollington K. Tong.

China at the present time, according to the vice minister of education, Yuan Hsit'ao, has over 134,000 modern schools of different types, including normal, industrial, and technical schools, colleges, and universities, but in 1910 there were only 52,650 schools. The number of schools has thus been more than doubled in only eight years. To-day there are in China 4,500,000 students, 326,000 teachers and administrative officers, and the annual expenditure of the Central and provincial governments is approximately $40,000,000, but in 1910 there were only 1,625,534 students, 185,566 teachers and administrative officers, and the educational expenditure was Tls. 24,444,309, or about $33,000,000. The above figures show that, although the number of students has increased by three-fourths, the amount of educational expenses has increased by less than $7,000,000. The result, according to the educational authorities, is the poorer school equipment, the poorer teaching staff, and the general inefficiency of most of the schools. This alarming situation is now receiving the serious consideration of public-spirited citizens. Unless it is remedied promptly, the future generations will be seriously affected. Quite a number of thinking Chinese are realizing the danger to the Republic if no adequate provision is made for the younger generation to receive a sound education, knowing that no republic can exist if its people are not properly educated.

"Since the establishment of the Republic, the educational funds of the central and provincial governments have been much reduced," declared the vice minister of education in an interview. In 1907, when Chang Tse-tung was viceroy of Hupeh, that Province annually expended $1,000,000 for educational purposes. At present it expends only something like $400,000 a year. In the last days of the Manchu régime, Kiangsu Province devoted over $2,000,000 a year to the education of its people, but now it expends only $1,100,000 annually.

"There are now more schools of various types than before," continued Vice Minister Yuan, "but they are not so well equipped. The laboratories in most of the schools, for instance, are lacking in experimental apparatus, and none of the colleges or universities has a good library for research work, which is much needed for advanced students. One interesting fact is that although the number of schools has been doubled during the last eight years, the number of students has been more than trebled. The result is that the existing schools are unable to accommodate all the aspiring young men and women, and that those students for whom accommodation has been found can not and do not receive the maximum amount of benefit on account of the lack of teachers and the consequent neccessity to attend too large a class.

"After the unification of the north and south the ministry of education will devote the best of its attention to remedying the existing defects and further to promote universal education. Hitherto, the civil war has cost China much money, and all the available funds which might have been appropriated for educational purposes in ordinary times have been requisitioned for military purposes. When the war is over, the claim of the ministry of education for more educational funds, we trust, will unquestionably receive a sympathetic hearing from the Government.

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[1] From Millard's Review (Shanghai), Mar. 22, 1919.

"In future the ministry will try its best to encourage higher and technical education by making special grants. It is now making plans for the dispatch of more college graduates to foreign countries to pursue a higher education. Social education in future will also be encouraged. Efforts are being made to impress upon the people the importance of knowledge, and the necessity of good and moral conduct. Our educational object is to give such education to the people that it will enable them to be useful men. I mean that we want to give them practical education. Personally, I do not believe in education by text books. Neither have we overlooked the usefulness of physical education. In former times learned Chinese were unable to make good use of their education because of their physical weakness. This condition is being remedied. I sincerely hope that a way will be found after the unification of China to make education as universal as possible."

In reply to an inquiry about the present status of the Chinese educational progress, Vice Minister Yuan gave the following interesting and up-to-date information which, however, does not cover a survey of the mission and private schools in China.

1. PRIMARY SCHOOLS.

The primary schools are of two grades: The lower primary school and the higher primary school. The course of study in the lower primary school is to be completed in four years and that in the higher primary school in three years. It is the duty of every parent to send his boy to school as soon as the latter reaches six years of age. This rule will be uniformly enforced and strictly carried out after the unification of China. The number of kindergartens in China is rather small, but the following statistics regarding the primary schools in the different Provinces for the fourth year of the Republic (from August, 1915, to July, 1916), which are the latest, may be of interest:

Lower primary schools.

Names of Provinces.	Number of schools.	Number of students.	Teachers and administrative officers.	Expenses.
Metropolis	216	21,073	594	$82,730
Metropolitan district	1,154	30,026	2,403	188,590
Chihli	14,288	423,537	32,895	1,418,415
Fengtien	5,489	195,893	8,050	1,372,093
Kirlin	758	31,522	1,493	340,061
Heilungkiang	967	28,537	1,197	286,515
Shantung	14,375	395,490	39,345	1,299,290
Honan	7,326	185,649	15,604	395,413
Shansi	10,817	304,283	20,711	737,677
Kiangsu	5,845	262,735	15,103	1,704,129
Anhwei	1,135	41,139	2,719	225,139
Kiangsi	3,026	91,761	7,842	407,239
Fukien	1,150	51,184	4,880	359,703
Chekiang	6,621	288,644	17,966	1,448,237
Hupei	9,118	216,582	13,539	456,729
Hunan	3,861	121,264	9,774	609,020
Shensi	4,913	121,176	12,611	244,558
Kansu	1,414	34,493	1,980	54,428
Sinkiang	53	2,602	76	42,523
Szechuen	13,832	436,017	26,501	1,060,202
Kwangtung	4,093	161,003	13,302	1,163,503
Kwangsi	1,560	48,665	3,225	389,253
Yunnan	4,678	167,954	9,602	470,704
Kueichow	1,411	54,292	4,346	183,395
Jehol	464	10,686	761	48,344
Suiyuan	262	5,925	283	21,765
Charhar	181	4,381	239	13,100
Total	119,007	3,736,513	267,041	15,022,755

Table showing the higher primary schools of the whole country.

Names of Provinces.	Number of schools.	Number of students.	Teachers and administrative officers.	Expenses.
Metropolis	61	4,034	497	$171,782
Metropolitan District	54	2,091	191	58,311
Chihli	405	25,808	1,827	667,014
Fengtien	351	20,102	1,297	540,077
Kirlin	88	4,024	321	199,172
Heilungkiang	65	2,759	241	163,471
Shantung	381	16,078	1,481	369,780
Honan	224	12,594	755	236,757
Shansi	225	13,788	1,067	241,877
Kiangsu	458	26,625	3,224	751,377
Anhwei	253	10,024	1,327	246,312
Kiangsi	421	19,474	2,040	345,605
Fukien	489	14,539	3,210	318,817
Chekiang	720	31,143	3,985	667,561
Hupei	182	13,158	963	253,385
Hunan	341	21,126	2,066	248,621
Shensi	140	7,917	824	173,880
Kansu	139	4,227	542	82,289
Sinkiang	6	147	10	14,029
Szechuen	835	44,280	4,751	744,481
Kwangtung	1,100	45,998	6,088	990,675
Kwangsi	330	12,766	1,364	269,038
Yunnan	318	21,446	1,333	219,888
Kueichow	235	10,639	1,369	147,897
Jehol	21	907	89	29,137
Suiyuan	7	374	16	7,069
Charhar	13	297	46	15,415
Total	7,862	386,365	40,915	9,173,717

2. MIDDLE SCHOOLS.

The aim of the middle schools is to furnish general education and to develop strong and intelligent citizens. The course of the middle school is four years. Graduates from the higher primary school or those who have passed examinations showing a similar grade of scholarship are allowed to enter the middle school. Owing to the great demand for vocational education, special courses will be offered to the students of the middle school, besides the regular courses.

The following is the table regarding the middle schools in China for the sixth year of the Republic (from August, 1917, to July, 1918):

Middle schools in 1917–18.

Names of Provinces.	Schools.	Teachers.	Administrative officers.	Classes.	Students.	Graduates.	Expenses.
Metropolis	12	188	67	39	3,092	492	$54,912
Metropolitan districts	5	33	15	10	551	44	9,240
Chihli	2	258	27	79	3,321	2,302	122,072
Fengtien	17	158	70	43	1,960	489	80,791
Kirlin	8	70	30	16	906	.....	.....
Heilungkiang	2	21	10	18	421	132	25,000
Shantung	21	261	79	49	3,406	504	106,077
Shansi	20	186	129	51	2,854	647	157,840
Shensi	6	87	39	31	1,530	187	85,796
Honan	16	155	89	44	2,885	1,254	84,166
Kiangsu	21	208	74	50	2,898	488	100,786
Anhwei	11	83	39	29	1,125	497	37,250
Chekiang	23	371	169	72	5,525	1,872	29,160
Kiangsi	18	218	88	71	3,014	740	48,950
Hupei	26	226	79	51	2,896	622	18,512
Hunan	45	691	245	243	8,614	1,483	240,313
Szechuen	55	283	102	69	8,008	2,316	.....

Middle schools in 1917–18—Continued.

Names of Provinces.	Schools.	Teachers.	Administrative officers.	Classes.	Students.	Graduates.	Expenses.
Kwangtung	52	480	194	111	7,105	20,848	$245,478
Kwangsi	22	185	76	54	2,573	417	108,029
Yunnan	14	136	51	33	1,654	630	87,711
Kueichow	6	93	40	28	1,664	443	40,215
Fukien	18	251	195	66	2,600	965	28,679
Kansu	4	69	33	16	667	117	30,046
Charhar	1	5	2	86	.....	.....	.....
Jehol	2	28	11	6	279	47	.....
Suiyuan	1	6	3	1	49	45	.....
Total	428	4,750	1,956	1,366	69,598	37,581	1,741,023

The following is the table giving particulars of the girls' middle schools in China for the sixth year of the Republic:

Girls' middle schools.

Names of Provinces.	Schools.	Teachers.	Administrative officers.	Classes.	Students.	Graduates.	Expenses.
Metropolis	1	20	7	4	229	.....	.....
Heilungkiang	1	9	4	2	100	.....	.....
Kiangsu	5	76	26	5	221	47	$13,260
Hupei	1	9	4	1	36	.....	10,020
Fukien	1	18	6	1	36	25	.....
Total	9	132	47	13	622	72	23,280

3. NORMAL SCHOOLS.

The normal schools are of two grades—the normal school and the high normal school. The purpose of normal schools is to train teachers for the primary school, and that of the higher normal schools is to train teachers for the middle schools. Students of the normal schools, both Government and public, are exempted from payment for tuition and are given certain allowances to defray their expenses. The amount of such allowance varies according to the number of years the students are required to serve as teachers after their graduation. The normal school gives the preparatory course and the regular course. The preparatory course is for one year. The regular course is to be divided into two parts; first part of the course is for four years and the second part one year. Graduates from the higher primary schools, or students showing a similar grade of scholarship, are qualified to take the preparatory course. Students completing the preparatory course and graduates from the middle schools are qualified to take the second part of the regular course. Courses for training primary school and kindergarten teachers may be added to the curriculum of the normal school.

The higher normal school gives the preparatory course, regular course, and special research course. Elective and special courses may be added when occasion requires. The preparatory course is for one year, the regular course three years, and the special research course two years. Graduates from middle schools or normal schools or students of equivalent scholarship are allowed to take the preparatory course. After completing the preparatory course the

students are allowed to take the regular course, and then the special research course.

The following table gives particulars of the normal schools in China for the sixth year of the Republic:

Normal schools.

Names of Provinces.	Schools.	Administrative officers.	Teachers.	Classes.	Students.	Graduates.	Expenses.
Metropolis	1	13	18	5	214	26	$58,298
Metropolitan district	1	7	9	4	164	39	33,160
Chihli	5	30	76	35	1,372	194	158,244
Fengtien	18	41	121	42	1,777	228	129,577
Kirlin	4	19	51	15	604	113	93,630
Heilungkiang	2	7	22	9	400	40	71,067
Shantung	4	25	67	30	1,022	258	171,124
Shansi	4	26	64	26	1,178	165	88,392
Honan	5	40	57	19	811	82	121,404
Shensi	2	19	25	9	489	108	65,076
Kansu	4	18	120	8	401	219	42,782
Kiangsu	10	122	193	54	2,287	510	374,452
Chekiang	11	82	182	51	1,865	183	217,350
Anhwei	5	50	71	25	1,053	26	125,278
Kiangsi	5	25	71	20	895	167	81,744
Hupei	4	22	85	17	919	127	94,358
Hunan	6	43	157	25	1,545	30	138,362
Szechuen	10	53	92	30	1,458	101	145,820
Hsinkiang	1	3	6	1	60	40	16,549
Fukien	4	33	64	15	495	32	74,992
Kwangtung	8	30	88	15	503	39	42,968
Kwangsi	3	14	38	14	507	41	75,447
Yunnan	7	49	406	22	1,175	233	130,019
Kueichow	1	7	26	5	228	36	25,000
Jehol	1	3	7	2	73	.....	7,380
Charhar	1	2	4	2	80	.....	8,971
Total	127	782	2,129	500	21,575	3,036	2,629,444

The following table gives particulars of the girls' normal schools, also for the sixth year of the Republic:

Girls' normal schools.

Names of Provinces.	Schools.	Administrative officers.	Teachers.	Classes.	Students.	Graduates.	Expenses.
Metropolis	2	2	39	8	222	56	$71,931
Chihli	2	18	42	10	353	96	72,176
Fengtien	5	10	45	13	504	161	32,027
Kirlin	2	4	16	6	185	.....	32,184
Heilungkiang	1	4	17	3	134	.....	26,784
Shantung	2	13	32	10	357	.....	37,374
Shansi	2	14	28	7	188	27	33,600
Honan	1	7	16	2	85	16	25,124
Shensi	1	12	20	3	60	14	23,907
Kansu	1	2	6	1	27	8	4,674
Kiangsu	5	42	71	17	498	68	83,555
Chekiang	6	31	84	21	432	43	50,422
Anhwei	2	16	22	6	180	32	19,687
Kiangsi	2	9	28	3	85	.....	14,038
Hupei	1	3	22	3	12	.....	24,780
Hunan	10	56	135	31	960	82	93,647
Szechuen	3	18	77	10	301	.....	47,800
Fukien	1	10	21	5	184	14	20,184
Kwangtung	3	11	57	6	257	3	15,687
Yunnan	1	4	17	3	141	39	1,023
Kueichow	1	2	7	1	38	.....	25,000
Total	54	289	802	169	5,203	659	755,604

The following table shows the high normal schools of the whole country:

Number of schools	7
Number of administrative officers	165
Number of teachers:	
Deans	35
Professors	107
Instructors	155
Assistants	8
Preparatory students	540
Collegiate students:	
National language	229
English	228
History and geography	93
Mathematics	131
Science	138
Philosophy	120
Mathematics and science	93
Literature and history	40
Special-course students:	
Manual labor and drawing	73
Physical training	117
National language	155
Agriculture	29
Industry	39
Commerce	30
English	22
Drawing and music	37
History and geography	42
Science	41
Elected-course students:	
Special	27
Postgraduate	64
Handwork	62
Special training in teaching	42
Lecture	119
Research	10
Total number of students	2,517
Number of graduates	407
Expenses	$959,060

4. TECHNICAL SCHOOLS.

The technical schools are of two grades. A and B courses in agriculture, technique, commerce, shipbuilding, and the like are given. Besides, technical schools have been established for girls. The A grade requires one year's preparatory work and gives a course of three years. The work of B grade covers a period of three years. The special and elective courses may be added according to the nature of the location of the school.

The table of the technical schools of the whole country is as follows:

Technical schools.

Names of schools.	Schools.	Administrative officers.	Teachers.	Classes.	Students.	Graduates.	Expenses.
Agricultural school (A)	54	383	640	193	5,998	897	$682,131
Industrial school (A)	29	214	492	168	4,352	579	664,747
Commercial school (A)	27	162	333	91	3,066	358	251,774
Technical school (A)	1	1	5	2	56	.....	1,800
Agricultural school (B)	240	412	622	354	9,784	1,054	377,217
Industrial school (B)	34	74	153	64	1,692	42	62,500
Commercial school (B)	68	128	299	133	3,627	301	30,414
Technical school (B)	2	7	15	5	156	43	3,692
Women's vocational schools	20	79	194	74	1,719	230	63,883
Teachers' industrial training schools	2	4	4	7	204	.....	.....
Total	477	1,464	2,757	1,091	30,654	3,504	2,138,158

Different courses given in the technical schools.

Technical subjects.	Institutions giving—			Technical subjects.	Institutions giving—		
	(A) Advanced course.	(B) Elementary course.	Women's vocational course.		(A) Advanced course.	(B) Elementary course.	Women's vocational course.
Agriculture	39	131	.....	Electrical engineering	1	.....	.....
Forestry	18	.....	.....	Applied chemistry	8	.....	.....
Sericulture	30	117	2	Mineralogy	6	.....	.....
Silk-producing work	.....	.....	1	Mining	2	.....	.....
Fishery	3	.....	.....	Drawing	1	.....	.....
Manufacture	3	.....	.....	Designing	1	.....	.....
Veterinary	1	.....	.....	Surveying	1	.....	.....
Cotton picking	.....	.....	1	Tapestry	.....	.....	1
Fabric dyeing	11	27	6	Pottery	1	1	.....
Dyeing	1	.....	.....	Pottery painting	1	.....	11
Carpentry	1	5	.....	Embroidery	.....	.....	9
Rattan works	.....	1	.....	Sewing	.....	.....	4
Rattan and bamboo works	.....	7	.....	Tailoring	.....	.....	4
Varnishing	.....	1	.....	Imitation flower	.....	.....	1
Wheel works	.....	1	.....	Braiding	.....	.....	1
Hand labor	.....	.....	1	Lace making	.....	.....	1
Civil engineering	8	.....	.....	Hair netting	.....	.....	1
Goldsmithry	9	.....	.....	Fine arts	.....	.....	1
Dynamic electricity	2	.....	.....	Commerce	27	70	.....
Current electricity	1	.....	.....	Total	176	361	44

5. COLLEGES AND UNIVERSITIES.

The college is divided into preparatory, collegial, and post-graduate departments, in which courses on political science, law, medicine, agriculture, technique, commerce, fine arts, music, foreign languages, and the like are given. The preparatory course is for one year, the college course covers three years, and the post-graduate course requires two years. Graduates from the middle school or students of equivalent scholarship are allowed to enter the preparatory department after passing the necessary examinations. The preparatory department of a university covers a period of two years and the college department a period of four years.

Higher educational institutions.

Institutions.	Schools.	Courses.	Students.	Administrative officers.	Teachers.	Expenses.
Universities:						
Government	3	Preparatory, arts, science, engineering, and law.	2,811	67	207	$870,000
Private	3	University: Preparatory, arts, law, commerce. College: Preparatory, law, politics, economics, and commerce.	1,893	15	150	74,165
Colleges of law:						
Government	1	Preparatory, law, economics, political economics.	622	20	5	101,500
Public	20	Preparatory, law, economics, politics, and commerce.	3,573	363	459	549,452
Private	13	Preparatory, law, politics, economics, and commerce.	2,121	93	202	36,870
Colleges of agriculture:						
Government	1	Preparatory, agriculture, and forestry	171	18	21	91,200
Public	6	Preparatory, agriculture, forestry, silkworm, and sericulture.	568	80	129	262,300
Technical colleges:						
Government	1	Preparatory, mechanics, electric engineering, and applied chemistry.	242	18	39	126,036
Public	8	Preparatory, civil engineering, dynamics, applied chemistry, mining, and dyeing.	1,037	130	214	606,072
Colleges of commerce:						
Government	1	Preparatory and commerce	134	14	25	42,168
Public	4	Preparatory, commerce, and banking	266	34	90	98,703
Private	1	Commerce	41	8	24	9,500
Medical colleges:						
Government	1	Medicine	174	46	22	103,000
Public	4	Medicine and pharmacy	391	59	48	146,886
Private	3	Preparatory and medicine	211	24	56	215,000
Foreign language college:						
Public	4	Preparatory, English, Japanese, German, and Russian.	605	33	67	102,340
College:						
	3	Preparatory, spinning, civil engineering, mechanics, medical, and engineering.	290	36	76	135,468
		Total	16,150	1,058	1,834	3,570,984

6. SOCIAL EDUCATION.

The Ministry of Education has appointed special officials to develop social education. Plans for the promotion of social education have been receiving much attention from the ministry, but owing to the unsettled condition of the country the program can not be fully carried out as expected. The following is a list of the institutions already established for the promotion of social education:

Libraries	175
Elementary libraries	287
Moving libraries	257
Elementary lecture institutions	2,129
Open-air lecture institutions	659
Newspaper reading office	1,727
Museums	10
Schools for backward students	81
Half-day schools for poor and destitute	1,242
Open-air schools	37
Elementary reading schools	4,593

PEKING, *March 15, 1919.*

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